VENDOR LIST

ALTERNATIVES FOR CFC-113 AND METHYL CHLOROFORM IN PRECISION CLEANING



November 1998

SIGNIFICANT NEW ALTERNATIVES POLICY PROGRAM STRATOSPHERIC PROTECTION DIVISION U.S. EPA

This document is not an exhaustive list of vendors and is intended for informational purposes only. Product offerings and descriptions have been supplied by the vendors included on the list and have not been evaluated by EPA. EPA does not endorse these products, certify their cleaning performance, or certify the accuracy of health and safety data provided by these companies for any of the alternatives to CFC-113 and methyl chloroform (MCF) presented in this document.

Section 612 of the Clean Air Act Amendments of 1990 requires EPA to publish lists of acceptable and unacceptable alternatives for ozone depleting substances (ODSs). To complete these lists, the Significant New Alternatives Policy (SNAP) program is evaluating both new and existing alternatives to ODSs within a comparative risk framework. To obtain a copy of the SNAP acceptability determinations, please contact:

SNAP Coordinator U.S. EPA 6205J 401 M St. SW Washington, DC 20460 (202) 564-9870

The majority of cleaning products sold by companies listed in this document are acceptable under the SNAP program for use as CFC-113 or MCF replacements. However, it is the user's responsibility to ensure that products selected to replace CFCs and methyl chloroform are acceptable substitutes under the SNAP Program.

If you would like to add a company name to the vendor list, please fill out the form at the end of this document and send it along with product literature to the SNAP coordinator. If you have a new substitute and would like to make a formal submission to the SNAP program prior to having your company added to our lists, please also contact the SNAP Coordinator. Product formulations describing specific ingredients and composition must be included in order to have a product evaluated.

AQUEOUS CLEANERS

ADF Systems, Ltd. 1302 19th Street. N. Humboldt, IA 50548 Tel: (515) 332-5400

Fax: (515) 332-4495

Aerocote Corporation P.O. Box 15849 Houston, TX 77220 Tel: (713) 224-6185 Fax: (713) 223-5229

Altos Engineering, Inc. 6009 N. 61 Ave Glendale, AZ 85301 Tel: (602) 931-8434 Fax: (602) 937-6396

Ambassador Marketing Route 1-Box 207 St. David, AZ 85630 Tel: (602) 720-4310 Fax: (602) 720-4068

Amtrex Technologies Inc. 3361 boulevard Griffith Saint-Laurent QC Canada H4T 1W5 Tel: (514) 739-0233

Fax: (514) 739-1581

Ardrox 16961 Knott Avenue La Mirada, CA 90638 Tel: (714) 739-2821 Fax: (714) 670-6480

AT-CHEM 1225 W. Main St. Wilmington, OH 45177 Tel: (513) 362-7511 (800) 443-2436 Fax: (513) 362-8038 Offers detergents both liquid and powder designed for use in all type of aqueous washing equipment. Offers non-foaming formulations with and without glycol ethers and with and without rust inhibitors for all applications. Has parts washing equipment designed for the type of uses experienced in maintenance operations.

Aqueous, semi-aqueous cleaners and hydrocarbon solvents. Applications using agitation including spray wash cabinets. Also, spray in steam cleaning, pressure washing, soak immersion, ultrasonic, and hand wiping applications.

Batch and inline cleaning equipment with nonchemical, thermal vacuum drying of rinse waters. Detergent formulations available with and without glycol ethers.

Aqueous and alcohol based cleaners for low residue degreasing and dewaxing applications. Formulations are nonflammable and nonfuming.

Aqueous ultrasonic cleaning/degreasing systems for the metalworking, aerospace, automotive, military, and plating industries.

Full range of aqueous-based formulations as well as aliphatic hydrocarbon-based blends, terpene-based formulations, hydrocarbon-based solvent blends and other cleaning alternatives and equipment.

AtoChem North America 3 Parkway Philadelphia, PA 19102 Tel: (215)419-7000

A.W. Chesterton 225 Fallon Road Middlesex Industrial Park Stoneham, MA 02180-2999

Tel: (617) 438-7000 Fax: (617) 438-8971

Better Engineering Mfg., Inc. 8361 Town Center Court Baltimore, MD 21236-4964 Tel: (410) 931-0000

(800) 229-3380 Fax: (410) 931-0053

Betz Metchem 508 Prudential Rd. Horsham, PA 19044 Tel: (800) 775-7175

Bio-Chem of Illinois, Inc. 3335 No. Lewis Avenue Waukegan, IL 60087 Tel: (708) 249-5770

Fax: (708) 623-6919

CAE Blackstone Ultrasonics, Inc.

9 North Main St. Jamestown, NY 14701 Tel: (716) 665-2340 (800) 766-6606

Fax: (716) 665-2480

Blue Wave Ultrasonics Div. of Alpheus Cleaning Technologies Corp. 960 S. Rolff St.

Davenport, IA 52802 Tel: (319) 322-0144 (800) 373-0144

Fax: (319) 322-7180

A complete line of aqueous cleaners containing detergents, with and without glycol ethers. Hydrocarbon solvents and solvent blends. Non-ozone depleting chlorinated solvents. Provide free assistance to customers wishing to replace ozone-depleting chemicals. Synthetic machining fluids, lubricants and maintenance specialties.

Manufacturers of industrial cleaning equipment, including automatic jet washers compatible with biodegradable detergents and water solutions. Also cleaning systems with wash, rinse, and dry cycles, custom systems, extended wash cabinets, large capacity systems, and tumbling systems.

Complete range of ultrasonic cleaning products from stand-alone and bench-top heated tanks to wash/multiple rinse/dry console systems with optional material handling and automation. Also, fluxless ultrasonic solder pots for tinning leads and electronics.

Ultrasonic cleaning equipment built for various applications specific to the customer's needs. Effective in cleaning different products and materials throughout the scope of fabricated metals, plastics, and ceramics. Also offer aqueous-based detergents that are environmentally safe.

Branson Ultrasonics Corp. P.O. Box 1961 41 Eagle Rd. Danbury, CT 06813-1961

Tel: (203) 796-0392 Fax: (203) 796-0320

Break-Free, Inc. 1035 S. Linwood Avenue Santa Ana, CA 92705-4396

Tel: (714) 953-1900 Fax: (714) 953-0402

The Brulin Corporation PO Box 270 2920 Dr. Andrew J. Brown Ave. Indianapolis, IN 46206

Tel: (317) 923-3211 Fax: (317) 925-4596

Buckeye International, Inc. 2700 Wagner Place Maryland Heights, MO 63043

Tel: (800) 321-2583 Fax: (314) 298-2850

BY*PAS International Corporation P.O. Box 14

Hudsonville, MI 49426 Tel: (616) 875-7234 Fax: (616) 875-7743

Chemical Solvents, Inc. 3751 Jennings Road Cleveland, OH 44109 Tel: (216) 741-9310

Fax: (216) 741-4080

Ultrasonic cleaning equipment and integrated cleaning systems for metal, electronic, and precision cleaning requirements. Manual and fully automated material handling/transport systems. Equipment for aqueous, semiaqueous and solvent chemistry.

Unique blend of orange oils and highly refined synthetic hydrocarbons formulated as a safe replacement for most chlorinated or halogenated, ozone-depleting solvents. Applications include degreasing, removal of oils, wax, tar, adhesives, fresh paint and oilbased inks. Also water-based, alkaline cleaners for the removal of heavy soil contaminants.

Advanced technology aqueous detergent systems for spray, immersion, ultrasonic, and passive process cleaning of fabricated metal or plastic parts.

Aqueous cleaners made with new patented chemistry have successfully replaced MEK, 1,1,1-trichloroethane, acetone, and other hydrocarbon solvents in many different applications.

Aliphatic hydrocarbon blends, terpenes, surfactants, biodegradable emulsifiers, non-ozone depleting halogenated solvents, HCFCs. Specialty formulations for metal, urethane fiberglass (resin) clean-up processes via spray, wipe and immersion systems. Turn-key parts cleaning services. Recycling, disposal of generated waste solvents and waters.

Chem-Tech International 1800 Diagonal Rd., Suite 600 Alexandria, VA 22314 Tel: (703) 549-1001

Fax: (703) 549-1003

Chemtronics, Inc. 8125 Cobb Center Dr. Kennesaw, GA 30144 Tel: (404) 424-4888 Fax: (404) 424-4267

Church & Dwight Co, Inc. 469 N. Harrison Street Princeton, NJ 08543-5297 Tel: (609) 683-5900

Fax: (609) 497-7176

Circle-Prosco, Inc. 2017 Yost Ave. Bloomington, IN 47403 Tel: (812) 339-3653 Fax: (812) 331-2566

Container Products Corp. PO Box 3767 Wilmington, NC 28406 Tel: (919) 392-6100 Fax: (919) 392-6778

Crest Ultrasonics Scotch Rd.- Mercer County Airport PO Box 7266 Trenton, NJ 08628 Tel: (609) 883-4000

(800) 441-9675 Fax: (609) 883-6452 Aqueous-based formulations containing detergents with and without glycol ethers as well as blends of hydrocarbons and emulsifiers which, when used in combination, provide residue-free cleaning. Can be used on all metals, teflon, plastic, and painted coatings. Also specially designed cleaning equipment.

Ultra-pure cleaners for electronics and metals.

Aqueous-based alkaline cleaner for removing flux from electronic assembly, or light oils from precision parts. The formula is non-hazardous, non-toxic, has no VOCs, non-flammable, no glycol ethers, does not attack aluminum and is used in in-line or batch equipment.

Aqueous, alkaline, etchant cleaners for ferrous and non-ferrous applications. Aqueous, acidic, neutral, and alkaline oil rejecting cleaners with or without glycol ethers for ferrous and non-ferrous applications. Water miscible, semi-aqueous cleaners (electronics cleaning). Water emulsifiable cleaners containing aliphatic and terpene solvents. Evaporative oils for no clean applications.

Systems incorporating a variety of aqueous cleaning techniques which include filtered negative pressure chambers, high pressure chambers, and mobile cleaning systems.

Precision cleaning equipment (primarily ultrasonic systems) from standard wash-rinsedry cleaning consoles to large custom automated batch cleaning equipment. Ultrasonic generator is sweep frequency generator capable of cavitating both aqueous and semi-aqueous chemistries. Full line of aqueous-based cleaning chemistries for ultrasonic applications as well.

Dell-Chem of Arizona P.O. Box 6633 Scottsdale, AZ 85261 Tel: (602) 788-8684

Fax: (602) 948-4172

Delta-Omega Technologies, Ltd. PO Box 81518 Lafayette, LA 70598-1518

Tel: (318) 237-5091 Fax: (318) 237-5131

Detrex Corp. 24901 Northwestern Highway Southfield, MI 48075 Tel: (313) 358-5800

Dow U.S.A. Midland, MI 48674 Tel: (800) 447-4369 Fax: (517) 832-1465

Fax: (313) 358-5803

Ecolink 1481 Rock Mountain Blvd. Stone Mountain, GA 30083 Tel: (404) 621-8240 (800) 886-8240 Fax: (404) 621-8245

Electrolube Corporation USA 10 Skyline Dr. Hawthorne, NY 10532 Tel: (914) 347-7300

Corpex P.O. Box 13486 Research Triangle Park, NC 27709-3486

Tel: (919) 941-0847 Fax: (919) 941-0652 Aqueous and alcohol-based cleaners for low residue degreasing and dewaxing applications. Formulations are nonflammable and nonfuming.

Fully aqueous, biodegradable, non-toxic cleaning solutions. Products leave no residue following proper cleaning and rinsing, no fumes or odors, are non-flammable, and contain no hazardous or reportable components.

Aqueous micro-emulsion solution for gross metal cleaning and equipment for use with the cleaning solution. Alternative/vapor degreasing process, specialty equipment and solvents for metals and electronics cleaning, chlorinated and HCFC solvents, and aqueous and semi-aqueous solvents.

Multiple formulations composed of blends of anionic and nonionic surfactants with corrosion inhibitors and builders.

Wide range of aqueous, semi-aqueous and non-aqueous chemistries. Formulations include a variety of hydrocarbon, NMP, DBE and terpene products as well as non-ozone depleting halogenated solvents. Manufacture a complete line of batch cleaning units for use with these solvents.

Non-toxic, non-flammable, biodegradable aqueous solvents suitable for in-line and batch equipment without modification. Also ideal for screen and pallet cleaning and precision metal degreasing (ferrous and non-ferrous).

A wide variety of corrosion inhibitors, hydrocarbon emulsifiers and carbon product removers that are non-hazardous and non-toxic.

ETUS, Inc.

1511 Kastner Place Sanford, FL 32771

Tel: (407) 321-7910

Fax: (407) 321-3098

Fine Organics Corp.

205 Main St. PO Box 687

Lodi, NJ 07644-0687

Tel: (201) 472-6800

(800) 526-7480

Fax: (201) 472-6810

Fremont Industries, Inc. 4400 Valley Industrial Park

Shakopee, MN 55379

Tel: (612) 445-4121

Fax: (612) 496-3027

Hubbard-Hall, Inc.

PO Box 790

Waterbury, CT 06725

Tel: (203) 754-2171

(800) 648-3412

Fax: (203) 596-9544

(203) 756-9017

Hurricane Systems, Inc. 2080 Brooklyn Rd.

PO Box 867

Jackson, MI 49204

Tel: (517) 787-3481

Fax: (517) 787-2349

Hurri-Kleen Corp. 6000 Southern Industrial Dr.

Birmingham, AL 35235

Tel: (205) 655-8808 Fax: (205) 655-5392 Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous-based formulations containing detergents with and without glycol ethers.

Non-hazardous and biodegradable solvent and solvent-emulsion based alternatives. Products are applicable to the transportation, aviation, electronics, and coatings industries. Also offer water-based alternative products.

Aqueous-based metal cleaning and nonmetallic substrate cleaning formulations and application equipment. Includes spray, soak, and ultrasonic cleaners in rinse and no-rinse formulations.

Wide range of "off-the-shelf", semi-custom, and custom parts cleaning systems using water-based cleaning compounds. Systems include: belt, rotary and overhead conveyors for continuous and batch processing; carousel, cabinet, and agitation tank washers; multistage wash, rinse, oxidation inhibit, and dry; oil removal and oil skimming devices; electric, gas, and steam heat packages.

Aqueous-based biodegradable cleaners with and without glycol ethers.

Inland Technology, Inc. 401 East 27th St. Tacoma, WA 98421

Tel: (253) 922-8932 (800) 552-3100

Fax: (206) 926-0577

Insitu Environmental Chemical Co. 8402 East Redwing Rd. Scottsdale, AZ 85250-5740

Tel: (602) 948-9209 Fax: (602) 951-0715

International Products Corp. P.O. Box 70 Burlington, NJ 08016-0070

Tel: (609) 386-8770 Fax: (609) 386-8438

JM Associates, Inc. 225 Railroad Avenue Bedford Hills, NY 10507 Tel: (914) 241-3795

Fax: (914) 241-3731

JnJ Industries 195 E. Main St. Suite 303 Milford, MA 01757

Tel: (800) 554-9994 Fax: (508) 478-2221

Kester Solder Division Litton Industries 515 E. Touhy Avenue
Des Plaines, IL 60018-2675

Tel: (847) 297-1600 Fax: (847) 390-9338 Range of aqueous cleaners used in hand-wipe cleaning. Also other non ozone-depleting biodegradable solvents for various cleaning applications, including vapor degreasing, precision cleaning, paint stripping, and resin removal.

Aqueous and alcohol-based cleaners for low residue degreasing and dewaxing applications. Formulations are nonflammable and nonfuming.

Biodegradable formulations with low toxicity, no phosphates or CFCs used in precision and critical cleaning operations.

New bioremediation technology: safe, non-toxic, non-caustic, neutral pH, non-flammable aqueous cleaning solution with hydrocarbons. Has successfully replaced hazardous solvents in vehicle maintenance, metals cleaning and precision manufacturing operations. Also solvents for auto, marine, contaminated soil and grease cleaning. Application of cleaners by immersion, spray or within closed-loop industrial systems.

Manufacturer of eight non-CFC formulations including a supersaturated wipe solvent.

Alcohol-based cleaners, solvent blends, and aqueous saponifiers. Also manufacture noclean, water-clean, and VOC-free; fluxes, solders, and solder pastes.

Kyzen Corporation 430 Harding Industrial Drive Nashville, TN 37211 Tel: (615) 831-0888

Fax: (615) 831-0889

Lewis Corp. 102 Willenbrock Rd. Oxford, CT 06478-1033 Tel: (203) 264-3100

Fax: (203) 264-3100

MacDermid, Inc. 245 Freight St. Waterbury, CT 06702 Tel: (203) 575-5700

Fax: (203) 575-5630

Modern Chemical Inc. P.O. Box 368 Jacksonville, AR 72078 Tel: (501) 988-1311 Fax: (501) 988-2229

Navy Brand Mfg Co. Division of Chemstar, Inc. 3670 Scarlet Oak Blvd. St. Louis, MO 63122 Tel: (800) 325-3312 (314) 861-5500

Fax: (314) 861-5509

A broad line of non-hazardous, zero ODP, biodegradable, and low VOC cleaning products. Kyzen products are used for cold cleaning, immersion solvent cleaning, and aqueous spray cleaning. These materials are compatible with a wide range of cleaning machines: spray in air, spray in immersion, soak, and ultrasonic. Kyzen products can be used in closed looped systems for low/zero discharge by a variety of commonly available water reuse systems.

Manufacturer of industrial cleaning systems, specializing in aqueous-based chemistries. Both ultrasonic and non-ultrasonic washers available.

Full range of aqueous-based formulations and terpene-based formulations for the metalworking, aerospace, automotive, electronic, military, and printing industries. Designed to meet military specifications. Products leave no residue following proper cleaning and rinsing. Formulations available with and without glycol ethers.

Non-toxic, non-corrosive, and non-flammable alkaline aqueous based cleaner. Can be used in hand sprayers, dip tanks, ultrasonic, and spray wash cabinets. Safe for ferrous and non-ferrous metals. Also effective in removing flux from printed circuit boards.

Industrial degreasers for metal cleaning and parts cleaning. Formulations are based on non-ozone depleting solvents. Also solvent-based, aqueous-based and also semi-aqueous-based products for a variety of cleaning applications on a host of substrates, both metallic and non-metallic.

Neozyme International, Inc. 3333 W. Pacific Coast Hwy. 4th Floor Newport Beach, CA 92663 Tel: (714) 650-9131

Fax: (714) 360-1193

North American BioIndustries Corp. 400 N. Executive Drive, Ste 467 Brookfield, WI 53005 Tel: (414) 789-2724

(800) 395-8070 Fax: (414) 789-2725

Oakite Products, Inc. 50 Valley Road Berkeley Heights, NJ 07922

Tel: (908) 508-2107 Fax: (908) 464-9250

O.C.S. Systems 134 East Chestnut Ave. Monrovia, CA 91016 Tel: (626) 305-7479 Fax: (626) 305-7485

Parker-Amchem 32100 Stephenson Highway Madison Heights, MI 48071 Tel: (810) 583-9300

PPG Chemfil 1330 Piedmont Troy, MI 48083 Tel: (313) 689-0720 Degreasing formulations made of plant derived enzymes and fully biodegradable emulsifiers in an aqueous solution. Unique applications in water treatment systems. Can be used in conjunction with ultrasound microwave, and other types of mechanical cleaning devices.

Aqueous surfactants and microbes for hard surface degreasing and to initiate bioremediation of oily waste water. Also offer and service bioreactors for treatment of oily waste water.

High-tech, state-of-the-art, recyclable cleaning products for use in immersion, ultrasonic, hand wipe, and other cleaning applications. Many aqueous and semi-aqueous formulations adhere to the Clean Air Act, OSHA regulations, and do not contain SARA 313 ingredients. Comprehensive lines of products that exhibit biodegradability, oil splitting or emulsifying features. Terpene-based cleaners have no flash point, and alkaline, aqueous formulations include non-phosphated, non-chelated, mildly alkaline cleaners.

Offer aqueous-based formulation containing detergents with and without EGBE. Biodegradable, sewerable. Ultrasonics, spray wash systems, dishwashers, cabinet washers for cleaning, defluxing any and all parts. Complete closed loop systems, including D.I. water systems.

PPG Industries, Inc. Chemicals Group 1 PPG Place Pittsburgh, PA 15272

Tel: (800) 243-6774 Fax: (412) 434-2401

Quaker Chemical Corp. Elm & Lee Streets Conshohocken, PA 19428-0809

Tel: (610) 832-4000 Fax: (610) 832-8682

Qual-Tech Enterprises, Inc. 1485 Bayshore Blvd. San Francisco, CA 94124 Tel: (415) 467-7887

Fax: (415) 467-7092

R.G. Hanson Co., Inc. 703 E. Lincoln Bloomington, IL 61701 Tel: (309) 828-5070 (800) 392-0903

Fax: (309) 829-3294

Rochester Midland Corp. 333 Hollenbeck St. Rochester, NY 14621 Tel: (716) 336-2200 Fax: (716) 467-4406

SafeWorld Products Corp. P. O. Box 4680 Homosassa Springs, FL 34447 Tel: (904) 382-1483 (800) 461-8714

SAMSCO, Inc. 18 Cote Avenue Goffstown, NH 03045 Tel: (603) 668-7111 Fax: (603) 647-0537 Micro-emulsion cleaning system suitable for many metal cleaning applications. System is neutral, non-ionic, low VOC, non-combustible and biodegradable. Also contains a rust inhibitor package and features long bath life and low waste generation.

Aqueous cleaning chemicals and equipment. New equipment using only steam to clean also available.

Formulations comprised of hydrocarbon and/or terpene solvents. Some also contain surfactants. Many contain alkaline builders and chelants as well as glycol ethers. Some aqueous-based or water-compatible formulations exhibit good biodegradability. Many products allow for good oil/grease separation upon standing.

Formulations of biodegradable, ionic and nonionic surfactants. Also low odor, micro emulsions that are non-solvent blends, and other biodegradable cleaners, degreasers, and dispersants.

The SAMSCO water evaporator evaporates efficiently and economically. Typical applications include machining/grinding coolants, alkaline cleaners, floor scrubber waters, vibratory solutions, stamping/drawing compounds, wire drawing compounds and die casting solutions.

S.A.S., Inc.

2435 North Indian Hill Blvd Claremont, CA 91711-1730

Tel: (909) 624-0396 Fax: (909) 624-6336

Selig Chemical Industries

PO Box 43106 840 Selig Dr. SW Atlanta, GA 30378 Tel: (404) 691-9220

Fax: (404) 699-7024

Smart Sonic Precision Cleaning Systems

2373 Teller Rd., #107 Newbury Park, CA 91320

Tel: (805) 499-7440 Fax: (805) 375-5781

SONICOR Instrument Corp.

100 Wartburg Ave. Copiague, NY 11726 Tel: (516) 842-3344 Fax: (516) 842-3389

Star Cleaning Miracle, Inc.

P.O. Box 14

Hudsonville, MI 49426 Tel: (616) 875-7234 Fax: (616) 875-7743

Step Kare Corporation

P.O. Box 211

Highland Park, IL 60035

Tel: (708) 358-2158 Fax: (708) 358-2158

Storchem Inc. 3600 Billings Court, Suite 110 Burlington, Ontario Canada L7N 3N6

Tel: (416) 639-9700 Fax: (416) 639-5244 Aqueous cleaning machines, part washers using spray, immersion, agitation, and ultrasonics. Range of detergents, cleaners, oil skimmers, exhaust systems, filtering systems, auto rinse systems, and hot air dryers.

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous-based formulations containing detergents with and without glycol ethers and some containing d-limonene.

Automated ultrasonic and spray batch cleaners for precision cleaning of metal, plastic, and ceramic parts. Systems clean oils, particulate and other contaminates. Optional waste evaporator.

Ultrasonic cleaning equipment, automated aqueous cleaning systems. Environmentally safe alternatives to cleaning with hazardous solvents.

Water-based flux remover, effective on rosin and non-rosin fluxes; aqueous coating remover. Also removes cutting oils and other contaminants. Non-aqueous coating remover contains no petroleum distillates or glycol ethers. Capable of removing conformal coatings or rosin fluxes in a non-aqueous formulation.

Aqueous-based terpene formulations containing detergents and emulsifiers; semi-aqueous cleaners and degreasers based on terpene alcohols and hydrocarbons; terpene alcohol and hydrocarbon blends used as non-water soluble solvents.

Sunshine Makers, Inc./Simple Green 15922 Pacific Coast Highway Huntington Harbor, CA 92649

Tel: (310) 795-6000 (800) 228-0709 Fax: (310) 592-3034

Surftran

Division of Robert Bosch Corporation 30250 Stephenson Hwy Madison Heights, MI 48071

Tel: (810) 691-2560 Fax: (810) 847-0206

SWR Corporation 127 East Washtenaw Lansing, MI 48933 Tel: (517) 487-6390 Fax: (517) 487-8205

Terpene Technologies Inc. 3400 Ridge Rd. W, Suite 293 Rochester, NY 14626 Tel: (716) 546-8455 (716) 777-0790 Fax: (716) 227-3834

Texo Corp. 2801 Highland Ave. Cincinnati, OH 45212 Tel: (513) 731-3400 Fax: (513) 731-8113

Thierica 900 Clancy Ave. Grand Rapids, MI 49503 Tel: (616) 458-1538 Fax: (616) 458-7120 Concentrated aqueous-based non-toxic, biodegradable, non-flammable cleaner/degreaser containing a blend of high-grade penetrants and surfactants which are activated by water.

Precision and non-precision aqueous cleaning equipment. Environmentally sound chemical cleaners and rust inhibitors for aqueous cleaning.

Cleaners include biodegradable, non-toxic, aqueous cleaner/degreaser surfactants that have a powerful affinity for removing grease, oil and grime emulsions. The SWRTM cleaners also remove oils and grease coatings from machine and electronic parts with no remaining residue. As non-toxic compounds, SWRTM cleaners reduce associated end-use disposal costs.

Terpene alcohol and hydrocarbon blends used as non-water soluble solvents, semi-aqueous cleaners and degreasers based on terpene alcohols and hydrocarbons. Also offer aqueous-based terpene formulations containing detergents and emulsifiers.

Aqueous, semi-aqueous, and various solvent cleaners for replacement of vapor degreasing and handwiping with solvents. Applications of cleaners can be spray immersion, ultrasonic or handwiping. Cleaners can be multimetal safe and contain corrosion inhibitors if necessary.

New low cost spray equipment manages extremely difficult cleaning jobs. Used with large and small parts containing baked grease and paint soils. Designed to be safe and environmentally secure with hydrocarbon and aqueous cleaning agents. Stainless steel construction.

Today & Beyond PO Box 690 Ashland, OH 44805 Tel: (419) 945-2628

Ultrasound Fabrications, Inc. 1 Maple St. Shelton, CT 06484 Tel: (203) 924-1624

Fax: (203) 924-1625

Unitech Industrial Inc. PO Box 330 16 South Ave, Wappingers Falls, NY 12590 Tel: (914) 297-0745 (800) 277-5522 Fax: (914) 297-2919

United Laboratories, Inc. 320 37th Ave. St. Charles, IL 60174 Tel: (708) 773-0252 Fax: (708) 773-0595

U.S. Polychemical Corp.
Route 45 Chestnut Ridge Road
Chestnut Ridge, NY 10977
Tel: (914) 356-5530
(800) 431-2072
Fax: (914) 356-6656

Working Solutions, Inc. 938 Cortlandt Street Houston, TX 77008 Tel: (800) 829-4419

Fax: (713) 862-5591

Specialty industrial cleaners formulated utilizing SPC to meet the needs and cleaning requirements for the aerospace, aircraft, automotive, electronics, marine, military and nuclear industries. Existing vapor tanks can be used with minor modification in most cases.

Ultrasonic parts washing systems with standard tank volumes of 5, 10, 20, and 30 gallons, as well as special sizes if required. Systems provide for ultrasonic washing, spray or different types of immersion rinsing and hot air drying to achieve clean, dry, spot free parts.

Closed loop industrial cleaning systems. Spray washers, batch cleaning systems, vapor degreasing, and pretreatment systems available in new equipment and retrofits. Waste water treatment and recycling, 100% oil removal from the cleaning process.

Aqueous cleaners for use on most metals. Can be used from ambient temperatures to 200°, direct spray, spray under immersion, or in ultrasonic operations.

Manufacturers of oil and grease buffing compounds, flux removing chemistries with non-chlorinated solvents, semi-aqueous, and aqueous technologies. Also automated cleaning systems with recirculating agitation or ultrasonics for turn-key applications.

Aqueous, semi-aqueous and solvent cleaning technologies and equipment.

W.R. Grace & Co. Metalworking Fluids Group 55 Hayden Ave. Lexington, MA 02173 Tel: (617) 861-6600

Zelman International Ltd. PO Box 1112 Studio City, CA 91614 Tel: (818) 786-9488 (310) 576-6830 sales Fax: (818) 787-8560

(310) 576-6832

Fax: (617) 861-9066

Zip-Chem Products 1860 Dobbin Dr. San Jose, CA 95133 Tel: (408) 729-0291 (800) 648-2661 Fax: (408) 272-8062

AQUEOUS CLEANING EQUIPMENT

ACCEL 1825 E. Piano Parkway Piano, TX 75074-8129 Tel: (214) 424-3525 Fax: (214) 424-7526

ACME-FAB Div. of A-F Industries 11337 Williamson Rd. Cincinnati, OH 45249 Tel: (513) 489-3060 Fax: (513) 489-6018 Wide range of aqueous cleaning formulations for metal. precision, and maintenance cleaning. Includes formulations that are phosphate-free. Suitable for agitation, soak, spray, ultrasonic and hand wipe applications.

Homogeneous blend of colloids, surfactants, hyper-wetting agents and water in an industrial non-toxic, non-caustic cleaner designed to clean commercial and military aircraft, as well as metal surfaces such as aluminum and magnesium alloys, removing mill markings, mill inks and shop soils such as dirt, coolants, lubricants, forming and cutting oils, and other common shop contaminants. Highly diluted, it is also used in ultrasonic and precision cleaning and degreasing.

Aqueous, semi-aqueous aliphatic hydrocarbon, terpene and alcohol-based cleaners. Application oriented packaging like wipes, aerosols, specialty containers, and other delivery systems available.

System utilizing centrifugal cleaning to provide superior washing, effective rinsing, and drying of populated printed circuit boards and hybrid circuits. Includes automatic solvent recycling and rinse water purification with no required drain. Compatible with chlorocarbons, fluorocarbons, H₂0, and terpenes.

Batch and conveyorized spray cleaning systems, standard machines, or custom designed equipment. Also offer automatic immersion systems incorporating rotation agitation and pump turbulation.

ADF Systems, Ltd. 1302 19th Street. N. Humboldt, IA 50548 Tel: (515) 332-5400

Fax: (800) 798-5100

Advanced Curing Systems, Inc. 3701 S. Ashland Ave. Chicago, IL 60609 Tel: (312) 247-3600

Advanced Deburring and Finishing 25 Marianne Dr. PO Box 2491 York, PA 17405 Tel: (717) 767-4843 (800) 553-7060

Altos Engineering, Inc. 6009 N. 61 Ave Glendale, AZ 85301 Tel: (602) 931-8434 Fax: (602) 937-6396

American Metal Wash, Inc. PO Box 265 360 Euclid Ave. Cannonsburg, PA 15317 Tel: (412) 746-4203

Fax: (412) 746-4203

Amtrex Technologies Inc. 3361 Boulevard Griffith Saint-Laurent QC Canada H4T 1W5 Tel: (514) 739-0233

Tel: (514) 739-0233 Fax: (514) 739-1581 Offers detergents both liquid and powder designed for use in all type of aqueous washing equipment. Offers non-foaming formulations with and without glycol ethers and with and without rust inhibitors for all applications. Has parts washing equipment designed for the type of uses experienced in maintenance operations.

Batch and inline cleaning equipment with nonchemical, thermal vacuum drying of rinse waters. Detergent formulations available with and without glycol ethers.

Bearing washer for precision cleaning of final assembled race bearings, including points of contact. Equipment can be provided in single or multi-stages for accommodations of washing, rinsing, rust inhibiting, and thorough drying of each bearing. Can accommodate bearing diameters of 7/8" to 20" and can be setup for use with aqueous or semi-aqueous cleaning solutions.

Aqueous ultrasonic cleaning/degreasing systems for the metalworking, aerospace, automotive, military, and plating industries.

Ardrox

16961 Knott Avenue La Mirada, CA 90638

Tel: (714) 739-2821 Fax: (714) 670-6480

ATCOR Corp.

150 Great Oaks Blvd. San Jose, CA 95119-1367

Tel: (408) 629-6080 (800) 827-6080 Fax: (408) 629-9009

Babcock & Wilcox CIM Systems

4004 Murray Place Lynchburg, VA 24501

Tel: (804) 948-1361 Fax: (804) 948-1313

Baron-Blakeslee, Inc. 1500 West 16th St. Long Beach, CA 90813 Tel: (800) 548-4422

Fax: (310) 491-1091

Barrett Centrifugals

Box 15059

Worcester, MA 01615-0059

Tel: (508) 755-4306 (800) 228-6442 Fax: (508) 753-4805

Tun. (500) 755 1005

Better Engineering Mfg., Inc. 8361 Town Center Court Baltimore, MD 21236 Tel: (410) 931-0000

(800) 229-3380 Fax: (410) 931-0053 Full range of aqueous-based formulations as well as aliphatic hydrocarbon-based blends, terpene-based formulations, hydrocarbon-based solvent blends and other cleaning alternatives and equipment.

Provide turnkey automated cleaning and inspection (SQC/SPC) systems for complete integration into process cleaning lines, including aqueous and non-aqueous systems, material handling, drying, cleanliness and geometric inspection, and computer protocol communication. Full-scope of services from process selection, development, installation, training, and continued follow-up support.

Full line of cleaning equipment for use with aqueous, semi-aqueous, HCFC, and chlorinated solvents. Closed loop system incorporating vacuum drying available (near zero emissions).

Centrifugal equipment for washing and drying small, irregularly shaped parts using detergent/water solution. With custom fixturing, can be adapted for larger, more complex parts or assemblies.

Manufacturers of industrial cleaning equipment, including automatic jet washers compatible with biodegradable detergents and water solutions. Also cleaning systems with wash, rinse, and dry cycles, custom systems, extended wash cabinets, large capacity systems, and tumbling systems.

Bio-Chem of Illinois, Inc. 3335 No. Lewis Avenue Waukegan, IL 60087 Tel: (708) 249-5770

Fax: (708) 623-6919

Blackstone Ultrasonics, Inc.

9 North Main St.

Jamestown, NY 14701

Tel: (716) 665-2340 (800) 766-6606

Fax: (716) 665-2480

Blue Wave Ultrasonics

Div. of Alpheus Cleaning Technologies Corp.

960 S. Rolff St.

Davenport, IA 52802

Tel: (319) 322-0144

(800) 373-0144

Fax: (319) 322-7180

Bowden Industries Inc. 1004 Oster Dr. NW

Huntsville, AL 35816

Tel: (800) 553-3637

Branson Ultrasonics Inc.

41 Eagle Rd.

Danbury, CT 06810

Tel: (203) 796-0400

Fax: (203) 796-0381

CD Nelson Manufacturing Company

28979 North Herkey Drive

Lake Bluff, IL 60044

Tel: (708) 362-3555

Fax: (708) 362-0154

Complete range of ultrasonic cleaning products from stand-alone and bench-top heated tanks to wash/multiple rinse/dry console systems with optional material handling and automation. Also, fluxless ultrasonic solder pots for tinning leads and electronics.

Ultrasonic cleaning equipment built for various applications specific to the customer's needs. Effective in cleaning different products and materials throughout the scope of fabricated metals, plastics, and ceramics. Also offer aqueous-based detergents that are environmentally safe.

Ultrasonic cleaning equipment and integrated cleaning systems for metal, electronic, and precision cleaning requirements. Manual and fully automated material handling/transport systems. Equipment for aqueous, semi-aqueous and solvent chemistry.

Steam cleaning equipment for removing polishing paste, oils, pollutants, and other contaminants from metals, plastics, ceramics, silicone wafers. Removal of small burrs, rouges, casting materials, waxes from precious metals, ferrous and non-ferrous metals, ceramics, plastics. Ultrasonic cleaning of all above materials.

Chem-Tech International 1800 Diagonal Rd., Suite 600 Alexandria, VA 22314 Tel: (703) 549-1001

Fax: (703) 549-1003

Cincinnati Industrial Machinery PO Box 62027 3280 Hageman St. Cincinnati, OH 45241 (street add.) 45262 (PO Box)

Tel: (513) 769-0700 Fax: (513) 769-0697

Conax Buffalo Corporation 2300 Walden Avenue Buffalo, NY 14225 Tel: (716) 684-4500 (800) 223-2389

Fax: (716) 684-7433

Container Products Corp. PO Box 3767 Wilmington, NC 28406 Tel: (919) 392-6100

Fax: (919) 392-6778

Creative Enterprizes 105 Anyway, Suite 209 Lake Jackson, TX 77566 Tel: (409) 292-0244 Fax: (409) 292-0440

Crest Ultrasonics Scotch Rd. - Mercer County Airport PO Box 7266 Trenton, NJ 08628 Tel: (609) 883-4000

(800) 441-9675 Fax: (609) 883-6452 Aqueous-based formulations containing detergents with and without glycol ethers as well as blends of hydrocarbons and emulsifiers which, when used in combination, provide residue-free cleaning. Can be used on all metals, teflon, plastic, and painted coatings. Also specially designed cleaning equipment.

Custom designed machines for cleaning, surface preparation and other processing of metal and non-metallic parts.

Ultrasonic cleaning equipment and systems for cleaning machine components, fabricated parts, assemblies. Related support devices available.

Systems incorporating a variety of aqueous cleaning techniques which include filtered negative pressure chambers, high pressure chambers, and mobile cleaning systems.

Specialize in low cost conversion of existing facilities to safely use alternative cleaning agents. Design new or custom cleaning equipment and processes. Also design environmentally secure drying equipment and processes.

Precision cleaning equipment (primarily ultrasonic systems) from standard wash-rinsedry cleaning consoles to large custom automated batch cleaning equipment. Ultrasonic generator is sweep frequency generator capable of cavitating both aqueous and semi-aqueous chemistries. Full line of aqueous-based cleaning chemistries for ultrasonic applications as well.

Detrex Corporation 4000 Town Center, Suite 1100 Southfield, MI 48075 Tel: (313) 358-5800

Fax: (313) 358-5803

Durr Industries, Inc. 10301 Enterprises Dr. Davisburg, MI 48350 Tel: (313) 625-5400 Fax: (313) 625-5966

Ecolink 1481 Rock Mountain Blvd. Stone Mountain, GA 30083 Tel: (404) 621-8240 (800) 886-8240 Fax: (404) 621-8245

Electronic Controls Design, Inc. 4287-A SE International Way Milwaukie, OR 97006 Tel: (503) 659-6100 (800) 323-4548

Fax: (503) 659-4422

Fax: (914) 533-6275

Environmental Recovery Resources, Inc. PO Box 36 South Salem, NY 10590 Tel: (914) 533-6175

FMT Inc. (Findlay Machine & Tool) 1950 Industrial Dr. Findlay, OH 4584O Tel: (419) 422-0768

(800) 878-8011 Fax: (419) 422-0072 Aqueous micro-emulsion solution for gross metal cleaning and equipment for use with the cleaning solution. Alternative/vapor degreasing process, specialty equipment and solvents for metals and electronics cleaning, chlorinated and HCFC solvents, and aqueous and semi-aqueous solvents.

All aqueous and semi-aqueous systems recycle and reuse process water. Solvent systems reduce emissions by 99% over conventional degreasing systems.

Wide range of aqueous, semi-aqueous and non-aqueous chemistries. Formulations include a variety of hydrocarbon, NMP, DBE and terpene products as well as non-ozone depleting halogenated solvents. Manufacture a complete line of batch cleaning units for use with these solvents.

Floating, dispersed, and dissolved hydrocarbon contaminants removed to surface water discharge limits, using: no coalescing plates, no centrifugal, no carbon absorption, no sorbent waste. Also offer systems and services to extend cleaning bath 'life' for more cost effective aqueous systems and waste water processing, and waste-minimized settling-pond and separator maintenance/remediation.

Custom engineered parts cleaning equipment, standard parts cleaning equipment, and pollution control equipment.

Finishing Equipment Inc. 3640 Kennebec Dr. St. Paul, MN 55122 Tel: (612) 452-1860 Fax: (612) 452-9851

Forward Technology Ind. Inc. 13500 County Rd. 6 Minneapolis, MN 55441 Tel: (612) 559-1785

Fax: (612) 559-3929

Fremont Industries, Inc. 4400 Valley Industrial Park Shakopee, MN 55379 Tel: (612) 445-4121 Fax: (612) 496-3027

George Koch Sons Inc. 10 South 11th Ave. Evansville, IN 47744 Tel: (812) 426-9600 Fax: (812) 465-9724

Graymills Corporation 3705 N. Lincoln Ave. Chicago, IL 60613-3594 Tel: (312) 248-6825

(312) 477-4100 Fax: (312) 477-8673

The Hotsy Corp.
21 Inverness Way E.
Englewood, CO 80112-5796

Tel: (303) 792-5200

Aqueous, semi-aqueous and solvent cleaning systems available. From manual systems to automated high-production cleaning lines, with ultrasonics available as needed. Specialize in automated enclosed vapor degreasers for efficient use of the non-ozone depleting chlorinated solvents.

Standard and custom aqueous, systems featuring batch and part-by-part high speed automation, ultrasonics, high pressure sprays, hot air drying, IPA drying, vacuum dryers, and environmentally controlled enclosures. Also, semi-aqueous and solvent formulations available.

Aqueous-based metal cleaning and nonmetallic substrate cleaning formulations and application equipment. Includes spray, soak, and ultrasonic cleaners in rinse and no-rinse formulations. Hurricane Systems, Inc. 2080 Brooklyn Rd. PO Box 867 Jackson, MI 49204 Tel: (517) 787-3481

Fax: (517) 787-2349

Hurri-Kleen Corp. PO Box 29 Trussville, AL 35173 Tel: (205) 655-8808

Fax: (205) 655-5392

Hydro-Blast, Inc. 6917 NE 39th Court Vancouver, WA 98661 Tel: (206) 690-4400 Fax: (206) 696-5948

Jensen Fabricating Engineers, Inc. PO Box 307 East Berlin, CT 06023 Tel: (203) 828-6516

JM Associates, Inc. 225 Railroad Avenue Bedford Hills, NY 10507 Tel: (914) 241-3795

Fax: (914) 241-3731

K.E.W. Cleaning Systems, Inc. 130B E. St. Charles Rd. Carol Stream, IL 60188 Tel: (708) 690-3000

Wide range of "off-the-shelf", semi-custom, and custom parts cleaning systems using water-based cleaning compounds. Systems include: belt, rotary and overhead conveyors for continuous and batch processing; carousel, cabinet, and agitation tank washers; multistage wash, rinse, oxidation inhibit, and dry; oil removal and oil skimming devices; electric, gas, and steam heat packages.

Aqueous-based biodegradable cleaners with and without glycol ethers.

Full line of cabinet style aqueous cleaning systems with built in waste water evaporation system. Cleaning solution can be heated with electricity or natural gas. Systems available in powder coated or all stainless steel.

New bioremediation technology: safe, non-toxic, non-caustic, neutral pH, non-flammable aqueous cleaning solution with hydrocarbons. Has successfully replaced hazardous solvents in vehicle maintenance, metals cleaning and precision manufacturing operations. Also solvents for auto, marine, contaminated soil and grease cleaning. Application of cleaners by immersion, spray or within closed-loop industrial systems.

Kleer-Flo Company 15151 Technology Dr. Eden Prairie, MN 55344

Tel: (612) 934-2555 (800) 328-7942 Fax: (612) 934-3909

KLN Ultraschall GmbH Siegfriedstrasse 124 D-64646 Heppenheim GERMANY

Tel: +49-6252-14-0 Fax: +49-6252-14-277

Lewis Corp. 102 Willenbrock Rd. Oxford, CT 06478-1033 Tel: (203) 264-3100 Fax: (203) 264-3102

NAPCO

Plymouth Industrial Park Terryville, CT 06786 Tel: (203) 589-7800 Fax: (203) 589-7304

Ney Ultrasonics 1280 Blue Hills Avenue Bloomfield, CT 06002 Tel: (203) 286-6149 Fax: (203) 286-6150

O.C.S. Systems PO Box 370 429 Madera St. San Gabriel, CA 91778-0370

Tel: (818) 458-2471 Fax: (818) 458-2437 Standard and custom aqueous systems featuring various types of batch automation, ultrasonics, high pressure sprays, hot air drying, IPA drying, vacuum dryers. Environmentally controlled enclosures. Also, semi-aqueous and solvent formulations available.

Manufacturer of industrial cleaning systems, specializing in aqueous-based chemistries. Both ultrasonic and non-ultrasonic washers available.

Equipment for batch/manual and batch/automated cleaning using aqueous, water-miscible, semi-aqueous, and solvent chemistries. Complete application development laboratory to assist users.

Aqueous-based formulation containing detergents with and without EGBE. Biodegradable, sewerable. Ultrasonics, spray wash systems, dishwashers, cabinet washers for cleaning, defluxing any and all parts. Complete closed loop systems, including D.I. water systems.

Proceco 7300 Tellier St. Montreal, Quebec Canada H1N 3T7 Tel: (514) 254-8494

Fax: (514) 254-8184 (514) 254-6922

Ramco Equipment Corporation 32 Montgomery Street Hillside, NJ 07205 Tel: (908) 687-6700

Fax: (908) 687-0653

Ransohoff Co. North 5th St at Ford Boulevard Hamilton, OH 45011 Tel: (513) 863-5813 (800) 248-WASH Fax: (513) 863-8908

Rapid Engineering, Inc. P.O. Box 700 1100 Seven Mile Road N.W. Comstock Park, MI 49321-0700

Tel: (616) 784-0500 Fax: (616) 784-0435

R.G. Hanson Co., Inc. 703 E. Lincoln Bloomington, IL 61701 Tel: (309) 828-5070

(800) 392-0903

Fax: (309) 829-3294

RotoJet 2819 San Fernando Blvd. Burbank, CA 91504 Tel: (818) 841-1520 Fax: (818) 841-6448

RotoJet

Aqueous spray washers (turntable, belt conveyor, and immersion types). Also supply contaminated cleaning solutions recycling systems.

Standard line of single and multi-station aqueous degreasing systems with a wide selection of options including platform oscillation, directional turbulation, oil removal, ultrasonics, filtration, parts rotators and dryers. Nationwide network of application engineers to assist from process development through installation.

Standard and custom aqueous and semiaqueous cleaning equipment for small through high production parts cleaning requirements, as well as very small to large part configurations and various part materials. Expertise in precision cleaning. Patented, mechanically agitated aqueous technology for high volume intricately shaped or machined parts as a direct replacement of solvent vapor degreasing and ultrasonic cleaning systems.

Parts washers utilizing low to medium pressure spraying of aqueous solutions on metal and plastic substrates. Exhaust incinerators for lowering VOC discharge to the atmosphere.

Aqueous cleaning chemicals and equipment. New equipment using only steam to clean also available. SAMSCO, Inc. 18 Cote Avenue Goffstown, NH 03045 Tel: (603) 668-7111

Fax: (603) 647-0537

S.A.S., Inc.

2435 North Indian Hill Blvd Claremont, CA 91711-1730

Tel: (909) 624-0396 Fax: (909) 624-6336

S & C Co., Ltd. North America Division PO Box 902141 Palmdale, CA 93590-2141

Tel: (805) 267-0799 Fax: (805) 267-2324

Smart Sonic Precision Cleaning Systems 2373 Teller Rd., #107

Newbury Park, CA 91320 Tel: (805) 499-7440

Tel: (805) 499-7440 Fax: (805) 375-5781

SONICOR Instrument Corp.

100 Wartburg Ave. Copiague, NY 11726 Tel: (516) 842-3344

Fax: (516) 842-3389

Sonitech Inc.

239 East Stephenson St.

Freeport, IL 61032

Tel: (815) 235-2400 Fax: (815) 232-2150

Stoelting 502 Highway 67 Kiel, WI 53042

Tel: (414) 894-2293 (800) 558-5807 Fax: (414) 894-7029 The SAMSCO water evaporator evaporates efficiently and economically. Typical applications include machining/grinding coolants, alkaline cleaners, floor scrubber waters, vibratory solutions, stamping/drawing compounds, wire drawing compounds and die casting solutions.

Aqueous cleaning machines, part washers using spray, immersion, agitation, and ultrasonics. Range of detergents, cleaners, oil skimmers, exhaust systems, filtering systems, auto rinse systems, and hot air dryers.

Four frequency ultrasonic generator and ultrasonic spray cleaner suited for the cleaning of silicon waters and other precision parts.

Automated ultrasonic and spray batch cleaners for precision cleaning of metal, plastic, and ceramic parts. Systems clean oils, particulate and other contaminates. Optional waste evaporator.

Ultrasonic cleaning equipment, automated aqueous cleaning systems. Environmentally safe alternatives to cleaning with hazardous solvents.

Ultrasonic cleaning equipment using aqueous or semi-aqueous chemistries for a wide range of applications. Complete systems include cleaning tanks, rinse, tanks, dryers and closed loop rinse water recirculation systems. System uses alcohol or other solvents with perfluorinated chemistry for rinsing and drying non-water contact applications.

Surface Dynamics Inc. 9185 General Court Plymouth, MI 48170

Tel: (313) 459-0010

Surftran

Division of Robert Bosch Corporation 30250 Stephenson Hwy Madison Heights, MI 48071

Tel: (810) 691-2560 Fax: (810) 847-0206

Swen Sonic Corp. PO Box 4347 Davenport, IA 52808 Tel: (319) 322-0144

Fax: (319) 322-7180

Tally Cleaning Systems
Division of Metfab Engineering
332 John Diestch Blvd.
Attleboro Falls, MA 02763
Tel: (508) 695-1007

Fax: (508) 695-6335

Thierica 900 Clancy Ave. Grand Rapids, MI 49503 Tel: (616) 458-1538 Fax: (616) 458-7120

Tiyoda Mfg. U.S.A., Inc. 1613 Lockness Place Torrance, CA 90501 Tel: (310) 539-5471 Fax: (310) 539-5881

Ultrasound Fabrications, Inc. 1 Maple St. Shelton, CT 06484 Tel: (203) 924-1624

Fax: (203) 924-1625

Precision and non-precision aqueous cleaning equipment. Environmentally sound chemical cleaners and rust inhibitors for aqueous cleaning.

Single and multiple stage ultrasonic cleaning systems which utilize aqueous-based cleaning formulations. Complete systems available which include ultrasonic, wash, rinse, rustinhibit, hot air dry, particle filtration, oil separation, etc. Standard or custom engineered units.

New low cost spray equipment manages extremely difficult cleaning jobs. Used with large and small parts containing baked grease and paint soils. Designed to be safe and environmentally secure with hydrocarbon and aqueous cleaning agents. Stainless steel construction.

Vacuum desiring ultrasonic batch cleaning system provides instantaneous cleaning solution penetration into small tubes and holes and promotes superior cleaning. Vacuum drying system uses vacuum, hot air, ultra-pure steam heating and far-infrared heater.

Ultrasonic parts washing systems with standard tank volumes of 5, 10, 20, and 30 gallons, as well as special sizes if required. Systems provide for ultrasonic washing, spray or different types of immersion rinsing and hot air drying to achieve clean, dry, spot free parts.

Unique Industries, Inc. PO Box 417 Mohawk Ave. Extension Derby, CT 06418 Tel: (203) 735-8751

Unitech Industrial Inc.
PO Box 330
16 South Ave,
Wappingers Falls, NY 12590
Tel: (914) 297-0745
(800) 277-5522

Fax: (914) 297-2919

U.S. Polychemical Corp.
Route 45 Chestnut Ridge Road
Chestnut Ridge, NY 10977
Tel: (914) 356-5530
(800) 431-2072
Fax: (914) 356-6656

Vitronics Corp. Forbes Rd. Newmarket Industrial Park Newmarket, NH 03857 Tel: (603) 659-6550 Fax: (603) 659-7194

Working Solutions, Inc. 938 Cortlandt Street Houston, TX 77008 Tel: (800) 829-4419 Fax: (713) 862-5591

SEMI-AQUEOUS CLEANERS Aliphatic Hydrocarbon-Based

Aerocote Corporation P.O. Box 15849 Houston, TX 77220 Tel: (713) 224-6185 Fax: (713) 223-5229 Closed loop industrial cleaning systems. Spray washers, batch cleaning systems, vapor degreasing, and pretreatment systems available in new equipment and retrofits. Waste water treatment and recycling, 100% oil removal from the cleaning process.

Manufacturers of oil and grease buffing compounds, flux removing chemistries with non-chlorinated solvents, semi-aqueous, and aqueous technologies. Also automated cleaning systems with recirculating agitation or ultrasonics for turn-key applications.

Inline aqueous and semi-aqueous cleaning equipment with closed loop water treatment systems.

Aqueous, semi-aqueous and solvent cleaning technologies and equipment.

Aqueous, semi-aqueous cleaners and hydrocarbon solvents. Applications using agitation including spray wash cabinets. Also, spray in steam cleaning, pressure washing, soak immersion, ultrasonic, and hand wiping applications.

Aervoe-Pacific Co., Inc. 1198 Sawmill Road Gardnerville, NV 89410 Tel: (702) 782-0100

Fax: (702) 782-4027

ARCO Chemical Co. 3801 West Chester Pike Newtown Square, PA 19073-2387

Tel: (215) 359-2441 Fax: (215) 359-5753

Ardrox

16961 Knott Avenue La Mirada, CA 90638 Tel: (714) 739-2821

Fax: (714) 670-6480

A.W. Chesterton 225 Fallon Road Middlesex Industrial Park Stoneham, MA 02180-2999 Tel: (617) 438-7000

Fax: (617) 438-8971

Brulin Corporation PO Box 270 2920 Dr. Andrew J. Brown Ave. Indianapolis, IN 46206

Tel: (317) 923-3211 Fax: (317) 925-4596

Chemical Solvents, Inc. 3751 Jennings Road Cleveland, OH 44109 Tel: (216) 741-9310

Fax: (216) 741-4080

Hydrocarbon, alcohol and HFC-based cleaners, defluxers, lubricants, dust off and circuit freezing formulations designed for electronics. All products sold contain zero ozone depleting substances.

Full range of aqueous-based formulations as well as aliphatic hydrocarbon-based blends, terpene-based formulations, hydrocarbon-based solvent blends and other cleaning alternatives and equipment.

A complete line of aqueous cleaners containing detergents, with and without glycol ethers. Hydrocarbon solvents and solvent blends. Non-ozone depleting chlorinated solvents. Provide free assistance to customers wishing to replace ozone-depleting chemicals. Synthetic machining fluids, lubricants and maintenance specialties.

Advanced technology aqueous detergent systems for spray, immersion, ultrasonic, and passive process cleaning of fabricated metal or plastic parts.

Aliphatic hydrocarbon blends, terpenes, surfactants, biodegradable emulsifiers, non-ozone depleting halogenated solvents, HCFCs. Specialty formulations for metal, urethane fiberglass (resin) clean-up processes via spray, wipe and immersion systems. Turn-key parts cleaning services. Recycling, disposal of generated waste solvents and waters.

Chemtronics, Inc.

8125 Cobb Center Dr. Kennesaw, GA 30144

Tel: (404) 424-4888 Fax: (404) 424-4267

Circle-Prosco, Inc. 2017 Yost Ave.

Bloomington, IN 47403

Tel: (812) 339-3653 Fax: (812) 331-2566

Cobehn, Inc.

640 Airport Road

Winchester, VA 22602

Tel: (703) 665-0707 Fax: (703) 665-0768

Coleman Chemical, Inc.

One Gemstar Lane

Joliet, IL 60435 Tel: (815) 727-3900

Fax: (815) 727-3998

Creative Enterprizes

105 Anyway, Suite 209

Lake Jackson, TX 77566

Tel: (409) 292-0244

Fax: (409) 292-0440

Dow U.S.A.

Midland, MI 48674

Tel: (800) 447-4369

Fax: (517) 832-1465

Ecolink

1481 Rock Mountain Blvd.

Stone Mountain, GA 30083

Tel: (404) 621-8240 (800) 886-8240

Fax: (404) 621-8245

Ultra-pure cleaners for electronics and metals.

Aqueous, alkaline, etchant cleaners for ferrous and non-ferrous applications. Aqueous, acidic, neutral, and alkaline oil rejecting cleaners with or without glycol ethers for ferrous and non-ferrous applications. Water miscible, semi-aqueous cleaners (electronics cleaning). Water emulsifiable cleaners containing aliphatic and terpene solvents. Evaporative oils for no clean applications.

Manufacturer of a non-solvent-based precision batch cleaning system, utilizing solvent materials filtered to .2um ppm. Process removes flux, oils and particulates by agitation, wetting and drying in an inert atmosphere. Also used for hybrids, and PCBs.

Specialty formulations of non-ozone depleting HFCs available in 1995.

Specialize in low cost conversion of existing facilities to safely use alternative cleaning agents. Design new or custom cleaning equipment and processes. Also design environmentally secure drying equipment and processes.

Formulations composed of paraffinic hydrocarbons and glycol ethers and blends of paraffinic hydrocarbons, glycol ethers, and surfactants.

Wide range of aqueous, semi-aqueous and non-aqueous chemistries. Formulations include a variety of hydrocarbon, NMP, DBE and terpene products as well as non-ozone depleting halogenated solvents. Manufacture a complete line of batch cleaning units for use with these solvents.

ETUS, Inc.

1511 Kastner Place Sanford, FL 32771

Tel: (407) 321-7910

Fax: (407) 321-3098

Fine Organics Corp.

205 Main St. PO Box 687

Lodi, NJ 07644-0687

Tel: (201) 472-6800

(800) 526-7480

Fax: (201) 472-6810

Firefreeze Worldwide, Inc.

270 Route 46 East

Rockaway, NJ 07866

Tel: (973) 627-0722

Fax: (973) 627-2982

JnJ Industries

195 E. Main St.

Suite 303

Milford, MA 01757

Tel: (800) 554-9994

Fax: (508) 478-2221

Kleer-Flo Company

15151 Technology Dr.

Eden Prairie, MN 55344

Tel: (612) 934-2555

(800) 328-7942

Fax: (612) 934-3909

MacDermid, Inc.

245 Freight St.

Waterbury, CT 06702

Tel: (203) 575-5700

Fax: (203) 575-5630

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous-based formulations containing detergents with and without glycol ethers.

Non-hazardous and biodegradable solvent and solvent-emulsion based alternatives. Products are applicable to the transportation, aviation, electronics, and coatings industries. Also offer water-based alternative products.

Aqueous based degreasing, cleaning and odor eliminating formulations. Products are plant derived, environmentally friendly, non-corrosive, non-flammable, and fully biodegradable. Unique applications for waste water and sludge treatment and oil/grease separation and removal. Can be used in hand sprayers, water pressurized units, power washers, and other spray equipment.

Manufacturer of eight non-CFC formulations including a supersaturated wipe solvent.

Full range of aqueous-based formulations and terpene-based formulations for the metalworking, aerospace, automotive, electronic, military, and printing industries. Designed to meet military specifications. Products leave no residue following proper cleaning and rinsing. Formulations available with and without glycol ethers.

Micro Care Corp. 34 Ronzo Road Bristol, CT 06010 Tel: (203) 585-7912

Fax: (203) 585-7378

Navy Brand Mfg Co. Division of Chemstar, Inc. 5111 Southwest Avenue St. Louis, MO 63110-3496 Tel: (800) 325-3312 (314) 865-5500

Fax: (314) 865-5509

Petroferm Inc. 5415 First Coast Highway Fernandina Beach, FL 32034

Tel: (904) 261-8286 Fax: (904) 261-6994

P-T Technologies, Inc. 108 4th Ave. South Safety Harbor, FL 34695 Tel: (800) 441-7874

Fax: (813) 725-9544

Ramco Equipment Corporation 32 Montgomery Street Hillside, NJ 07205

Tel: (908) 687-6700 Fax: (908) 687-0653

The Rission Group Inc. 13349 Michigan Ave. Dearborn, MI 48126 Tel: (313) 581-2620

Fax: (313) 581-3758

Solvent cleaners based on but not limited to terpene hydrocarbon, alcohol, or HCFC technologies. Formulations are engineered for use in non-automated hand cleaning applications where rinsing is not available. Cleaners are effective in touch-up cleaning and precision cleaning of all types of flux residues, oils, grease and grime.

Industrial degreasers for metal cleaning and parts cleaning. Formulations are based on non-ozone depleting solvents. Also solvent-based, aqueous-based and also semi-aqueous-based products for a variety of cleaning applications on a host of substrates, both metallic and non-metallic.

Broad line of formulations based on terpenes, ester, and aliphatic hydrocarbons and blends of these organic solvents with surfactants. Products are used for cold (hand) cleaning and in combination with various cleaning equipment. Products can be removed by evaporation, water, alcohols or nonflammable fluorinated solvents. Both products and rinse media can be recycled.

Non-halogenated hydrocarbon-based specialty cleaning and degreasing formulations for precision cleaning. Also offer vapor degreaser alternatives, ionic contaminant removers, acetone, MEK alternatives for specific industrial applications.

Standard line of single and multi-station aqueous degreasing systems with a wide selection of options including platform oscillation, directional turbulation, oil removal, ultrasonics, filtration, parts rotators and dryers. Nationwide network of application engineers to assist from process development through installation.

Aqueous and non-aqueous formulations containing surfactants with and without glycol ethers. Hydrocarbons and blends of hydrocarbons with emulsifiers also available.

Rochester Midland Corp. 333 Hollenbeck St. Rochester, NY 14621 Tel: (716) 336-2200 Fax: (716) 467-4406

Selig Chemical Industries PO Box 43106 840 Selig Dr. SW Atlanta, GA 30378 Tel: (404) 691-9220 Fax: (404) 699-7024

Step Kare Corporation P.O. Box 211 Highland Park, IL 60035

Tel: (708) 358-2158 Fax: (708) 358-2158

Texo Corp. 2801 Highland Ave. Cincinnati, OH 45212 Tel: (513) 731-3400 Fax: (513) 731-8113

U.S. Polychemical Corp.
Route 45 Chestnut Ridge Road
Chestnut Ridge, NY 10977
Tel: (914) 356-5530
(800) 431-2072
Fax: (914) 356-6656

Working Solutions, Inc. 938 Cortlandt Street Houston, TX 77008 Tel: (800) 829-4419 Fax: (713) 862-5591

Formulations comprised of hydrocarbon and/or terpene solvents. Some also contain surfactants. Many contain alkaline builders and chelants as well as glycol ethers. Some aqueous-based or water-compatible formulations exhibit good biodegradability. Many products allow for good oil/grease separation upon standing.

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous-based formulations containing detergents with and without glycol ethers and some containing d-limonene.

Water-based flux remover, effective on rosin and non-rosin fluxes; aqueous coating remover. Also removes cutting oils and other contaminants. Non-aqueous coating remover contains no petroleum distillates or glycol ethers. Capable of removing conformal coatings or rosin fluxes in a non-aqueous formulation.

Aqueous, semi-aqueous, and various solvent cleaners for replacement of vapor degreasing and handwiping with solvents. Applications of cleaners can be spray immersion, ultrasonic or handwiping. Cleaners can be multimetal safe and contain corrosion inhibitors if necessary.

Manufacturers of oil and grease buffing compounds, flux removing chemistries with non-chlorinated solvents, semi-aqueous, and aqueous technologies. Also automated cleaning systems with recirculating agitation or ultrasonics for turn-key applications.

Aqueous, semi-aqueous and solvent cleaning technologies and equipment.

Zip-Chem Products 1860 Dobbin Dr. San Jose, CA 95133 Tel: (408) 729-0291 (800) 648-2661 Fax: (408) 272-8062

Terpene-Based

Aerocote Corporation P.O. Box 15849 Houston, TX 77220 Tel: (713) 224-6185 Fax: (713) 223-5229

Ardrox 16961 Knott Avenue La Mirada, CA 90638 Tel: (714) 739-2821 Fax: (714) 670-6480

BioChem Systems 14452 W. 44th Avenue Golden, Colorado 80403 Tel: (303) 277-9700 (800) 777-7870 Fax: (303) 277-9596

Chemical Solvents, Inc. 3751 Jennings Road Cleveland, OH 44109 Tel: (216) 741-9310 Fax: (216) 741-4080

Chemtronics, Inc. 8125 Cobb Center Dr. Kennesaw, GA 30144 Tel: (404) 424-4888 Fax: (404) 424-4267 Aqueous, semi-aqueous aliphatic hydrocarbon, terpene and alcohol-based cleaners. Application oriented packaging like wipes, aerosols, specialty containers, and other delivery systems available.

Aqueous, semi-aqueous cleaners and hydrocarbon solvents. Applications using agitation including spray wash cabinets. Also, spray in steam cleaning, pressure washing, soak immersion, ultrasonic, and hand wiping applications.

Full range of aqueous-based formulations as well as aliphatic hydrocarbon-based blends, terpene-based formulations, hydrocarbon-based solvent blends and other cleaning alternatives and equipment.

Complete line of safe environmentally friendly products based on terpene chemistry for use in many cleaning and degreasing operations. Both water dilutable and non-dilutable products are offered which will remove most organic contaminants from a wide variety of substrates and leave a clean, virtually residue free surface with no adverse effects on the surface being cleaned.

Aliphatic hydrocarbon blends, terpenes, surfactants, biodegradable emulsifiers, non-ozone depleting halogenated solvents, HCFCs. Specialty formulations for metal, urethane fiberglass (resin) clean-up processes via spray, wipe and immersion systems. Turn-key parts cleaning services. Recycling, disposal of generated waste solvents and waters.

Ultra-pure cleaners for electronics and metals.

Circle-Prosco, Inc. 2017 Yost Ave. Bloomington, IN 47403 Tel: (812) 339-3653

Fax: (812) 331-2566

Coleman Chemical, Inc. One Gemstar Lane Joliet, IL 60435 Tel: (815) 727-3900

Fax: (815) 727-3998

Ecolink 1481 Rock Mountain Blvd. Stone Mountain, GA 30083 Tel: (404) 621-8240

(800) 886-8240 Fax: (404) 621-8245

Environmental Scientific, Inc. P.O. Box 13486 Research Triangle Park, NC 27709-3486

Tel: (919) 941-0847 Fax: (919) 941-0652

Environmental Solvents Corp. 1840 Southside Blvd. Jacksonville, FL 32216 Tel: (904) 724-1990

Fax: (904) 724-2508

Envirosolutions Inc. 335 Post Road West Westport, CT 06880 Tel: (203) 454-5902

Fax: (203) 222-0190

Aqueous, alkaline, etchant cleaners for ferrous and non-ferrous applications. Aqueous, acidic, neutral, and alkaline oil rejecting cleaners with or without glycol ethers for ferrous and non-ferrous applications. Water miscible, semi-aqueous cleaners (electronics cleaning). Water emulsifiable cleaners containing aliphatic and terpene solvents. Evaporative oils for no clean applications.

Specialty formulations of non-ozone depleting HFCs available in 1995.

Wide range of aqueous, semi-aqueous and non-aqueous chemistries. Formulations include a variety of hydrocarbon, NMP, DBE and terpene products as well as non-ozone depleting halogenated solvents. Manufacture a complete line of batch cleaning units for use with these solvents.

A wide variety of corrosion inhibitors, hydrocarbon emulsifiers and carbon product removers that are non-hazardous and nontoxic.

Blend of coniferous (pine) terpenes with and without surfactants. Non-surfactant-containing solvent is very easy and inexpensive to use with closed-loop water recycling. All flash points over 140°F. Very high solvency for hydrocarbon soils.

Biodegradable, non-caustic, neutral pH cleaner which is used in a closed loop parts washing system. Several different formulations developed to suit a variety of cleaning needs. Customized parts washing equipment is matched to the cleaning chemicals to ensure optimum performance.

Fine Organics Corp. 205 Main St. PO Box 687 Lodi, NJ 07644-0687 Tel: (201) 472-6800 (800) 526-7480 Fax: (201) 472-6810

Glidco Organics P.O. Box 389 Jacksonville, FL. 32201 Tel: (800) 231-6728 (904) 768-5800 Fax: (904) 768-2200

Inland Technology, Inc. 2612 Pacific Highway East Tacoma, WA 98424 Tel: (206) 922-8932 (800) 552-3100 Fax: (206) 926-0577

MacDermid, Inc. 245 Freight St. Waterbury, CT 06702 Tel: (203) 575-5700 Fax: (203) 575-5630

Micro Care Corp. 34 Ronzo Road Bristol, CT 06010 Tel: (203) 585-7912 Fax: (203) 585-7378

Navy Brand Mfg Co. Division of Chemstar, Inc. 5111 Southwest Avenue St. Louis, MO 63110-3496 Tel: (800) 325-3312 (314) 865-5500 Fax: (314) 865-5509 Non-hazardous and biodegradable solvent and solvent-emulsion based alternatives. Products are applicable to the transportation, aviation, electronics, and coatings industries. Also offer water-based alternative products.

State-of-the-art terpene-based cleaning agents for cold cleaning, hand-wipe cleaning, semi-aqueous cleaning, maintenance cleaning, and solvent-solvent cleaning. Glidsafe® cleaning agents employ unique terpene systems for optimal performance.

Range of aqueous cleaners used in hand-wipe cleaning. Also other non ozone-depleting biodegradable solvents for various cleaning applications, including vapor degreasing, precision cleaning, paint stripping, and resin removal.

Full range of aqueous-based formulations and terpene-based formulations for the metalworking, aerospace, automotive, electronic, military, and printing industries. Designed to meet military specifications. Products leave no residue following proper cleaning and rinsing. Formulations available with and without glycol ethers.

Solvent cleaners based on but not limited to terpene hydrocarbon, alcohol, or HCFC technologies. Formulations are engineered for use in non-automated hand cleaning applications where rinsing is not available. Cleaners are effective in touch-up cleaning and precision cleaning of all types of flux residues, oils, grease and grime.

Industrial degreasers for metal cleaning and parts cleaning. Formulations are based on non-ozone depleting solvents. Also solvent-based, aqueous-based and also semi-aqueous-based products for a variety of cleaning applications on a host of substrates, both metallic and non-metallic.

Oakite Products, Inc. 50 Valley Road Berkeley Heights, NJ 07922

Tel: (908) 508-2107 Fax: (908) 464-9250

Petroferm Inc. 5415 First Coast Highway Fernandina Beach, FL 32034

Tel: (904) 261-8286 Fax: (904) 261-6994

Rite Off, Inc. Seaford Industrial Park P.O. Box 1070 Seaford, DE 19973 Tel: (800) 645-5853 (302) 628-2100 Fax: (800) 571-2211

Rochester Midland Corp. 333 Hollenbeck St. Rochester, NY 14621 Tel: (716) 336-2200

Fax: (716) 467-4406

Selig Chemical Industries PO Box 43106 840 Selig Dr. SW Atlanta, GA 30378 Tel: (404) 691-9220

Fax: (404) 699-7024

High-tech, state-of-the-art, recyclable cleaning products for use in immersion, ultrasonic, hand wipe, and other cleaning applications. Many aqueous and semi-aqueous formulations adhere to the Clean Air Act, OSHA regulations, and do not contain SARA 313 ingredients. Comprehensive lines of products that exhibit biodegradability, oil splitting or emulsifying features. Terpene-based cleaners have no flash point, and alkaline, aqueous formulations include non-phosphated, non-chelated, mildly alkaline cleaners.

Broad line of formulations based on terpenes, ester, and aliphatic hydrocarbons and blends of these organic solvents with surfactants. Products are used for cold (hand) cleaning and in combination with various cleaning equipment. Products can be removed by evaporation, water, alcohols or nonflammable fluorinated solvents. Both products and rinse media can be recycled.

Wide variety of cleaning and maintenance formulations using alcohols, terpenes, HFCs, hydrocarbons and chlorinated solvents. Specialists in aerosol technology, liquid formulations also available.

Formulations comprised of hydrocarbon and/or terpene solvents. Some also contain surfactants. Many contain alkaline builders and chelants as well as glycol ethers. Some aqueous-based or water-compatible formulations exhibit good biodegradability. Many products allow for good oil/grease separation upon standing.

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous-based formulations containing detergents with and without glycol ethers and some containing d-limonene. Storchem Inc. 3600 Billings Court, Suite 110 Burlington, Ontario Canada L7N 3N6 Tel: (416) 639-9700

Fax: (416) 639-5244

Terpene Technologies Inc. 3400 Ridge Rd. W, Suite 293 Rochester, NY 14626 Tel: (716) 546-8455 (716) 777-0790 Fax: (716) 227-3834

Ultrasound Fabrications, Inc. 1 Maple St. Shelton, CT 06484 Tel: (203) 924-1624

Fax: (203) 924-1625

Union Camp Corp. Bush Boake Allen Division PO Box 37617 Jacksonville, FL 32236 Tel: (904) 783-2180 (800) 874-9220

Fax: (904) 786-6495

U.S. Polychemical Corp. Route 45 Chestnut Ridge Road Chestnut Ridge, NY 10977 Tel: (914) 356-5530 (800) 431-2072

Fax: (914) 356-6656

Working Solutions, Inc. 938 Cortlandt Street Houston, TX 77008 Tel: (800) 829-4419

Fax: (713) 862-5591

Aqueous-based terpene formulations containing detergents and emulsifiers; semi-aqueous cleaners and degreasers based on terpene alcohols and hydrocarbons; terpene alcohol and hydrocarbon blends used as non-water soluble solvents.

Terpene alcohol and hydrocarbon blends used as non-water soluble solvents, semi-aqueous cleaners and degreasers based on terpene alcohols and hydrocarbons. Also offer aqueous-based terpene formulations containing detergents and emulsifiers.

Ultrasonic parts washing systems with standard tank volumes of 5, 10, 20, and 30 gallons, as well as special sizes if required. Systems provide for ultrasonic washing, spray or different types of immersion rinsing and hot air drying to achieve clean, dry, spot free parts.

Range of wood terpene-based alternative solvents for semi-aqueous and solvent only cleaning processes and maintenance cleaning applications. High solvency and high soil loading properties for removal of solder fluxes, heavy oils and greases, polishing compounds, carbonaceous deposits etc. to the highest cleanliness standards.

Manufacturers of oil and grease buffing compounds, flux removing chemistries with non-chlorinated solvents, semi-aqueous, and aqueous technologies. Also automated cleaning systems with recirculating agitation or ultrasonics for turn-key applications.

Aqueous, semi-aqueous and solvent cleaning technologies and equipment.

Zip-Chem Products 1860 Dobbin Dr. San Jose, CA 95133 Tel: (408) 729-0291

(800) 648-2661 Fax: (408) 272-8062

Alcohol-Based

Aervoe-Pacific Co., Inc. 1198 Sawmill Road Gardnerville, NV 89410 Tel: (702) 782-0100

Fax: (702) 782-4027

Ambassador Marketing Route 1-Box 207 St. David, AZ 85630 Tel: (602) 720-4310 Fax: (602) 720-4068

ARCO Chemical Co. 3801 West Chester Pike Newtown Square, PA 19073-2387

Tel: (215) 359-2441 Fax: (215) 359-5753

Chemtronics, Inc. 8125 Cobb Center Dr. Kennesaw, GA 30144 Tel: (404) 424-4888 Fax: (404) 424-4267

Cobehn, Inc. 640 Airport Road Winchester, VA 22602 Tel: (703) 665-0707 Fax: (703) 665-0768

Coleman Chemical, Inc. One Gemstar Lane Joliet, IL 60435 Tel: (815) 727-3900

Fax: (815) 727-3998

Aqueous, semi-aqueous aliphatic hydrocarbon, terpene and alcohol-based cleaners. Application oriented packaging like wipes, aerosols, specialty containers, and other delivery systems available.

Hydrocarbon, alcohol and HFC-based cleaners, defluxers, lubricants, dust off and circuit freezing formulations designed for electronics. All products sold contain zero ozone depleting substances.

Aqueous and alcohol-based cleaners for low residue degreasing and dewaxing applications. Formulations are nonflammable and nonfuming.

Ultra-pure cleaners for electronics and metals.

Manufacturer of a non-solvent-based precision batch cleaning system, utilizing solvent materials filtered to .2um ppm. Process removes flux, oils and particulates by agitation, wetting and drying in an inert atmosphere. Also used for hybrids, and PCBs.

Specialty formulations of non-ozone depleting HFCs available in 1995.

Conceptronic, Inc. 6 Post Rd.

Portsmouth, NH 03801

Tel: (603) 431-6262 Fax: (603) 431-3303

Dell-Chem of Arizona 7119 E. Shea Blvd., Suite 106-224

Scottsdale, AZ 85254 Tel: (602) 951-5812 Fax: (602) 948-4172

Insitu Environmental Chemical Co. 8402 East Redwing Rd. Scottsdale, AZ 85250-5740

Tel: (602) 948-9209 Fax: (602) 951-0715

JnJ Industries 195 E. Main St. Suite 303

Milford, MA 01757 Tel: (800) 554-9994 Fax: (508) 478-2221

Ken Seika Corp. 314 Willow Dr.

Little Silver, NJ 07739 Tel: (908) 741-4920 Fax: (908) 758-9531

Kester Solder Division Litton Industries 515 E. Touhy Avenue

Des Plaines, IL 60018-2675

Tel: (708) 297-1600 Fax: (708) 390-9338 Semi-aqueous, spray-based, totally closed-loop modular batch cleaning systems utilizing non-flammable, naturally derived alcohol solvents in solution with water. Also have an ultrasonic batch cleaning system for metallic and non-metallic electronic surfaces and other difficult-to- clean non-electronic parts of unusual geometric shape.

Aqueous and alcohol-based cleaners for low residue degreasing and dewaxing applications. Formulations are nonflammable and nonfuming.

Aqueous and alcohol-based cleaners for low residue degreasing and dewaxing applications. Formulations are nonflammable and nonfuming.

Manufacturer of eight non-CFC formulations including a supersaturated wipe solvent.

Organic intermediates, specialty monomerspolymers, oligomers, etc. MMB for metal cleaning applications.

Alcohol-based cleaners, solvent blends, and aqueous saponifiers. Also manufacture noclean, water-clean, and VOC-free; fluxes, solders, and solder pastes.

Kyzen Corp. 413 Harding Industrial Dr. Nashville, TN 37211 Tel: (615) 831-0888 (800) 845-5524

Fax: (615) 831-0889

Micro Care Corp. 34 Ronzo Road Bristol, CT 06010 Tel: (203) 585-7912

Fax: (203) 585-7378

Navy Brand Mfg Co. Division of Chemstar, Inc. 5111 Southwest Avenue St. Louis, MO 63110-3496 Tel: (800) 325-3312 (314) 865-5500

Fax: (314) 865-5509

Oakite Products, Inc. 50 Valley Road Berkeley Heights, NJ 07922

Tel: (908) 508-2107 Fax: (908) 464-9250 A broad line of non-hazardous, zero ODP, biodegradable, and low VOC cleaning products. Kyzen products are used for cold cleaning, immersion solvent cleaning, and aqueous spray cleaning. These materials are compatible with a wide range of cleaning machines: spray in air, spray in immersion, soak, and ultrasonic. Kyzen products can be used in closed looped systems for low/zero discharge by a variety of commonly available water reuse systems.

Solvent cleaners based on but not limited to terpene hydrocarbon, alcohol, or HCFC technologies. Formulations are engineered for use in non-automated hand cleaning applications where rinsing is not available. Cleaners are effective in touch-up cleaning and precision cleaning of all types of flux residues, oils, grease and grime.

Industrial degreasers for metal cleaning and parts cleaning. Formulations are based on non-ozone depleting solvents. Also solvent-based, aqueous-based and also semi-aqueous-based products for a variety of cleaning applications on a host of substrates, both metallic and non-metallic.

High-tech, state-of-the-art, recyclable cleaning products for use in immersion, ultrasonic, hand wipe, and other cleaning applications. Many aqueous and semi-aqueous formulations adhere to the Clean Air Act, OSHA regulations, and do not contain SARA 313 ingredients. Comprehensive lines of products that exhibit biodegradability, oil splitting or emulsifying features. Terpene-based cleaners have no flash point, and alkaline, aqueous formulations include non-phosphated, non-chelated, mildly alkaline cleaners.

QO Chemicals, Inc. P.O. Box 2500 One Great Lakes Blvd West Lafayette, IN 47906

Tel: (800) 621-9521 Fax: (317) 497-6287

The Rission Group Inc. 13349 Michigan Ave. Dearborn, MI 48126 Tel: (313) 581-2620 Fax: (313) 581-3758

Rite Off, Inc.
Seaford Industrial Park
P.O. Box 1070
Seaford, DE 19973
Tel: (800) 645-5853
(302) 628-2100

Fax: (800) 571-2211

Selig Chemical Industries PO Box 43106 840 Selig Dr. SW Atlanta, GA 30378 Tel: (404) 691-9220 Fax: (404) 699-7024

Ultrasound Fabrications, Inc. 1 Maple St. Shelton, CT 06484

Tel: (203) 924-1624 Fax: (203) 924-1625

U.S. Polychemical Corp. Route 45 Chestnut Ridge Road Chestnut Ridge, NY 10977 Tel: (914) 356-5530 (800) 431-2072

Fax: (914) 356-6656

Specialty solvents used in various cleaning applications. Solvents are bio-degradable, water miscible, and not photo-chemically reactive.

Aqueous and non-aqueous formulations containing surfactants with and without glycol ethers. Hydrocarbons and blends of hydrocarbons with emulsifiers also available.

Wide variety of cleaning and maintenance formulations using alcohols, terpenes, HFCs, hydrocarbons and chlorinated solvents. Specialists in aerosol technology, liquid formulations also available.

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous-based formulations containing detergents with and without glycol ethers and some containing d-limonene.

Ultrasonic parts washing systems with standard tank volumes of 5, 10, 20, and 30 gallons, as well as special sizes if required. Systems provide for ultrasonic washing, spray or different types of immersion rinsing and hot air drying to achieve clean, dry, spot free parts.

Manufacturers of oil and grease buffing compounds, flux removing chemistries with non-chlorinated solvents, semi-aqueous, and aqueous technologies. Also automated cleaning systems with recirculating agitation or ultrasonics for turn-key applications.

Zip-Chem Products 1860 Dobbin Dr. San Jose, CA 95133 Tel: (408) 729-0291 (800) 648-2661

Fax: (408) 272-8062

Aqueous, semi-aqueous aliphatic hydrocarbon, terpene and alcohol-based cleaners. Application oriented packaging like wipes, aerosols, specialty containers, and other delivery systems available.

SEMI-AQUEOUS CLEANING EQUIPMENT

ACCEL

1825 E. Piano Parkway Piano, TX 75074-8129 Tel: (214) 424-3525 Fax: (214) 424-7526

Altos Engineering, Inc. 6009 N. 61 Ave Glendale, AZ 85301 Tel: (602) 931-8434 Fax: (602) 937-6396

American Metal Wash, Inc. PO Box 265 360 Euclid Ave. Cannonsburg, PA 15317 Tel: (412) 746-4203

Babcock & Wilcox CIM Systems

Fax: (412) 746-5738

Lynchburg, VA 24501 Tel: (804) 948-1361 Fax: (804) 948-1313

4004 Murray Place

System utilizing centrifugal cleaning to provide superior washing, effective rinsing, and drying of populated printed circuit boards and hybrid circuits. Includes automatic solvent recycling and rinse water purification with no required drain. Compatible with chlorocarbons, fluorocarbons, H₂0, and terpenes.

Batch and inline cleaning equipment with nonchemical, thermal vacuum drying of rinse waters. Detergent formulations available with and without glycol ethers.

Bearing washer for precision cleaning of final assembled race bearings, including points of contact. Equipment can be provided in single or multi-stages for accommodations of washing, rinsing, rust inhibiting, and thorough drying of each bearing. Can accommodate bearing diameters of 7/8" to 20" and can be setup for use with aqueous or semi-aqueous cleaning solutions.

Provide turnkey automated cleaning and inspection (SQC/SPC) systems for complete integration into process cleaning lines, including aqueous and non-aqueous systems, material handling, drying, cleanliness and geometric inspection, and computer protocol communication. Full-scope of services from process selection, development, installation, training, and continued follow-up support.

Baron-Blakeslee, Inc. 1500 West 16th St. Long Beach, CA 90813 Tel: (800) 548-4422 Fax: (310) 491-1091

Blackstone Ultrasonics, Inc. 9 North Main St.
Jamestown, NY 14701
Tel: (716) 665-2340
(800) 766-6606

Fax: (716) 665-2480

Blue Wave Ultrasonics
Div. of Alpheus Cleaning Technologies Corp.
960 S. Rolff St.
Davenport, IA 52802
Tel: (319) 322-0144
(800) 373-0144
Fax: (319) 322-7180

Branson Ultrasonics Inc. 41 Eagle Rd. Danbury, CT 06810 Tel: (203) 796-0400 Fax: (203) 796-0381

CD Nelson Manufacturing Company 28979 North Herkey Drive Lake Bluff, IL 60044 Tel: (708) 362-3555 Fax: (708) 362-0154

Cincinnati Industrial Machinery PO Box 62027 3280 Hageman St. Cincinnati, OH 45241 (street add.) 45262 (PO Box)

Tel: (513) 769-0700 Fax: (513) 769-0697 Full line of cleaning equipment for use with aqueous, semi-aqueous, HCFC, and chlorinated solvents. Closed loop system incorporating vacuum drying available (near zero emissions).

Complete range of ultrasonic cleaning products from stand-alone and bench-top heated tanks to wash/multiple rinse/dry console systems with optional material handling and automation. Also, fluxless ultrasonic solder pots for tinning leads and electronics.

Ultrasonic cleaning equipment built for various applications specific to the customer's needs. Effective in cleaning different products and materials throughout the scope of fabricated metals, plastics, and ceramics. Also offer aqueous-based detergents that are environmentally safe.

Ultrasonic cleaning equipment and integrated cleaning systems for metal, electronic, and precision cleaning requirements. Manual and fully automated material handling/transport systems. Equipment for aqueous, semiaqueous and solvent chemistry.

Steam cleaning equipment for removing polishing paste, oils, pollutants, and other contaminants from metals, plastics, ceramics, silicone wafers. Removal of small burrs, rouges, casting materials, waxes from precious metals, ferrous and non-ferrous metals, ceramics, plastics. Ultrasonic cleaning of all above materials.

Custom designed machines for cleaning, surface preparation and other processing of metal and non-metallic parts. Conax Buffalo Corporation 2300 Walden Avenue Buffalo, NY 14225 Tel: (716) 684-4500

(800) 223-2389 Fax: (716) 684-7433

Conceptronic, Inc. 6 Post Rd.
Portsmouth, NH 03801
Tel: (603) 431-6262
Fax: (603) 431-3303

Container Products Corp. PO Box 3767 Wilmington, NC 28406 Tel: (919) 392-6100 Fax: (919) 392-6778

Creative Enterprizes 105 Anyway, Suite 209 Lake Jackson, TX 77566 Tel: (409) 292-0244

Fax: (409) 292-0440

Crest Ultrasonics Scotch Rd. - Mercer County Airport PO Box 7266 Trenton, NJ 08628 Tel: (609) 883-4000

(800) 441-9675 Fax: (609) 883-6452

Durr Industries, Inc. 10301 Enterprise Dr. Davisburg, MI 48360 Tel: (313) 625-5400 Fax: (313) 625-5966 Ultrasonic cleaning equipment and systems for cleaning machine components, fabricated parts, assemblies. Related support devices available.

Semi-aqueous, spray-based, totally closed-loop modular batch cleaning systems utilizing non-flammable, naturally derived alcohol solvents in solution with water. Also have an ultrasonic batch cleaning system for metallic and non-metallic electronic surfaces and other difficult-to- clean non-electronic parts of unusual geometric shape.

Systems incorporating a variety of aqueous cleaning techniques which include filtered negative pressure chambers, high pressure chambers, and mobile cleaning systems.

Specialize in low cost conversion of existing facilities to safely use alternative cleaning agents. Design new or custom cleaning equipment and processes. Also design environmentally secure drying equipment and processes.

Precision cleaning equipment (primarily ultrasonic systems) from standard wash-rinsedry cleaning consoles to large custom automated batch cleaning equipment.

Ultrasonic generator is sweep frequency generator capable of cavitating both aqueous and semi-aqueous chemistries. Full line of aqueous-based cleaning chemistries for ultrasonic applications as well.

All aqueous and semi-aqueous systems recycle and reuse process water. Solvent systems reduce emissions by 99% over conventional degreasing systems.

Ecolink 1481 Rock Mountain Blvd. Stone Mountain, GA 30083 Tel: (404) 621-8240

(800) 886-8240 Fax: (404) 621-8245

Electronic Controls Design, Inc. 4287-A SE International Way Milwaukie, OR 97006 Tel: (503) 659-6100

(800) 323-4548 Fax: (503) 659-4422

Envirosolutions Inc. 335 Post Road West Westport, CT 06880 Tel: (203) 454-5902

Fax: (203) 222-0190

Finishing Equipment Inc. 3640 Kennebec Dr. St. Paul, MN 55122 Tel: (612) 452-1860

Fax: (612) 452-9851

Forward Technology Industries, Inc. 13500 County Road 6 Minneapolis, MN 55446-2777

Tel: (612) 559-1785 Fax: (612) 559-3929

Hurri-Kleen Corp. PO Box 29 Trussville, AL 35173 Tel: (205) 655-8808 Fax: (205) 655-5392 Wide range of aqueous, semi-aqueous and non-aqueous chemistries. Formulations include a variety of hydrocarbon, NMP, DBE and terpene products as well as non-ozone depleting halogenated solvents. Manufacture a complete line of batch cleaning units for use with these solvents.

Biodegradable, non-caustic, neutral Ph cleaner which is used in a closed loop parts washing system. Several different formulations developed to suit a variety of cleaning needs. Customized parts washing equipment is matched to the cleaning chemicals to ensure optimum performance.

Aqueous, semi-aqueous and solvent cleaning systems available. From manual systems to automated high-production cleaning lines, with ultrasonics available as needed. Specialize in automated enclosed vapor degreasers for efficient use of the non-ozone depleting chlorinated solvents.

Standard and custom aqueous, systems featuring batch and part-by-part high speed automation, ultrasonics, high pressure sprays, hot air drying, IPA drying, vacuum dryers, and environmentally controlled enclosures. Also, semi-aqueous and solvent formulations available.

Kleer-Flo Company 15151 Technology Dr. Eden Prairie, MN 55344

Tel: (612) 934-2555 (800) 328-7942 Fax: (612) 934-3909

KLN Ultraschall GmbH Siegfriedstrasse 124 D-64646 Heppenheim GERMANY

Tel: +49-6252-14-0 Fax: +49-6252-14-277

Ney Ultrasonics 1280 Blue Hills Avenue Bloomfield, CT 06002 Tel: (203) 286-6149 Fax: (203) 286-6150

Ransohoff Co. North 5th St at Ford Boulevard Hamilton, OH 45011 Tel: (513) 863-5813 (800) 248-WASH Fax: (513) 863-8908

Rapid Engineering, Inc. P.O. Box 700 1100 Seven Mile Road N.W. Comstock Park, MI 49321-0700 Tel: (616) 784-0500

Fax: (616) 784-0435

S&K Products International 80 Red Schoolhouse Rd. #102 Chestnut Ridge, NY 10977

Tel: (914) 425-6200 Fax: (914) 425-7602 Standard and custom semi-aqueous systems featuring various types of batch automation, ultrasonics, high pressure sprays, hot air drying, IPA drying, vacuum dryers, environmentally controlled enclosures. Also, aqueous and solvent formulations available.

Equipment for batch/manual and batch/automated cleaning using aqueous, water-miscible, semi-aqueous, and solvent chemistries. Complete application development laboratory to assist users.

Standard and custom aqueous and semiaqueous cleaning equipment for small through high production parts cleaning requirements, as well as very small to large part configurations and various part materials. Expertise in precision cleaning. Patented, mechanically agitated aqueous technology for high volume intricately shaped or machined parts as a direct replacement of solvent vapor degreasing and ultrasonic cleaning systems.

Parts washers utilizing low to medium pressure spraying of aqueous solutions on metal and plastic substrates. Exhaust incinerators for lowering VOC discharge to the atmosphere.

Solvent wash followed by one or more aqueous rinses, including formulated surfactants; then to spot free, stain free, particulate free drying via isopropyl alcohol.

Smart Sonic Precision Cleaning Systems 2373 Teller Rd., #107

Newbury Park, CA 91320

Tel: (805) 499-7440 Fax: (805) 375-5781

SONICOR Instrument Corp. 100 Wartburg Ave.

Copiague, NY 11726 Tel: (516) 842-3344

Fax: (516) 842-3389

Sonitech Inc.

239 East Stephenson St.

Freeport, IL 61032

Tel: (815) 235-2400 Fax: (815) 232-2150

Tiyoda Mfg. U.S.A., Inc. 1613 Lockness Place Torrance, CA 90501 Tel: (310) 539-5471

Fax: (310) 539-5881

Ultrasound Fabrications, Inc. 1 Maple St. Shelton, CT 06484

Tel: (203) 924-1624 Fax: (203) 924-1625 Automated ultrasonic and spray batch cleaners for precision cleaning of metal, plastic, and ceramic parts. Systems clean oils, particulate and other contaminates. Optional waste evaporator.

Ultrasonic cleaning equipment, automated aqueous cleaning systems. Environmentally safe alternatives to cleaning with hazardous solvents.

Ultrasonic cleaning equipment using aqueous or semi-aqueous chemistries for a wide range of applications. Complete systems include cleaning tanks, rinse, tanks, dryers and closed loop rinse water recirculation systems. System uses alcohol or other solvents with perfluorinated chemistry for rinsing and drying non-water contact applications.

Vacuum desiring ultrasonic batch cleaning system provides instantaneous cleaning solution penetration into small tubes and holes and promotes superior cleaning. Vacuum drying system uses vacuum, hot air, ultra-pure steam heating and far-infrared heater.

Ultrasonic parts washing systems with standard tank volumes of 5, 10, 20, and 30 gallons, as well as special sizes if required. Systems provide for ultrasonic washing, spray or different types of immersion rinsing and hot air drying to achieve clean, dry, spot free parts.

Unitech Industrial Inc.

PO Box 330 16 South Ave,

Wappingers Falls, NY 12590

Tel: (914) 297-0745 (800) 277-5522 Fax: (914) 297-2919

U.S. Polychemical Corp.

Route 45 Chestnut Ridge Road

Chestnut Ridge, NY 10977

Tel: (914) 356-5530 (800) 431-2072

Fax: (914) 356-6656

Vitronics Corp.

Forbes Rd.

Newmarket Industrial Park Newmarket, NH 03857

Tel: (603) 659-6550 Fax: (603) 659-7194 Closed loop industrial cleaning systems. Spray washers, batch cleaning systems, vapor degreasing, and pretreatment systems available in new equipment and retrofits. Waste water treatment and recycling, 100% oil removal from the cleaning process.

Manufacturers of oil and grease buffing compounds, flux removing chemistries with non-chlorinated solvents, semi-aqueous, and aqueous technologies. Also automated cleaning systems with recirculating agitation or ultrasonics for turn-key applications.

Inline aqueous and semi-aqueous cleaning equipment with closed loop water treatment systems.

HYDROCARBON-BASED SOLVENTS

Advanced Research Technologies 312 South Vine St.

Park Ridge, IL 60068 Tel: (708) 696-9371

Aerocote Corporation

Fax: (708) 696-4984

P.O. Box 15849

Houston, TX 77220 Tel: (713) 224-6185

Fax: (713) 223-5229

Ultra-low residue, high purity terpene hydrocarbon cleaning agents. Used in vapor degreasing applications for metals cleaning, electronics cleaning, and precision cleaning.

Aqueous, semi-aqueous cleaners and hydrocarbon solvents. Applications using agitation including spray wash cabinets. Also, spray in steam cleaning, pressure washing, soak immersion, ultrasonic, and hand wiping applications.

ARCO Chemical Co. 3801 West Chester Pike Newtown Square, PA 19073-2387

Tel: (215) 359-2441 Fax: (215) 359-5753

Ardrox Inc.

16961 Knott Avenue La Mirada, CA 90638 Tel: (714) 739-2821

Fax: (714) 670-6480

Full range of aqueous-based formulations as well as aliphatic hydrocarbon-based blends, terpene-based formulations, hydrocarbon-based solvent blends and other cleaning alternatives and equipment.

A.W. Chesterton 225 Fallon Road Middlesex Industrial Park Stoneham, MA 02180-2999

Tel: (617) 438-7000 Fax: (617) 438-8971

BASF Corp. 100 Cherry Hill Rd. Parsippany, NJ 07054

Break-Free, Inc. 1035 S. Linwood Avenue Santa Ana, CA 92705-4396

Tel: (714) 953-1900 Fax: (714) 953-0402

The Brulin Corporation PO Box 270 2920 Dr. Andrew J. Brown Ave. Indianapolis, IN 46206

Tel: (317) 923-3211 Fax: (317) 925-4596

Carroll Company 2900 W. Kingsley Road Garland, TX 75041 Tel: (800) 527-5722

Fax: (214) 840-0678

Chemical Marketing Corporation of America 180 Humboldt Avenue North Minneapolis, MN 55405

Tel: (612) 377-1971 Fax: (612) 377-5597 A complete line of aqueous cleaners containing detergents, with and without glycol ethers. Hydrocarbon solvents and solvent blends. Non-ozone depleting chlorinated solvents. Provide free assistance to customers wishing to replace ozone-depleting chemicals. Synthetic machining fluids, lubricants and maintenance specialties.

Unique blend of orange oils and highly refined synthetic hydrocarbons formulated as a safe replacement for most chlorinated or halogenated, ozone-depleting solvents. Applications include degreasing, removal of oils, wax, tar, adhesives, fresh paint and oilbased inks. Also water-based, alkaline cleaners for the removal of heavy soil contaminants.

Advanced technology aqueous detergent systems for spray, immersion, ultrasonic, and passive process cleaning of fabricated metal or plastic parts.

Aqueous cleaning formulations containing detergents with and without glycol ethers. Formulations made from hydrocarbons and terpenes with and without emulsifiers. Specialty solvent blends for printing ink cleanup, electric motor degreasing, cleaning printed circuit boards, and assorted textile mill applications.

Common solvents including aliphatics, aromatics, alcohols, chlorinateds, and ketones.

Chemical Solvents, Inc. 3751 Jennings Rd. Cleveland, OH 44109 Tel: (216) 741-9310 (800) 362-0693

Fax: (216) 741-4080

Chemical Technologies, Inc. 1610 Clara Street Jackson, MI 49203 Tel: (800) 688-8262

Fax: (517) 782-2448

Chem-Tech International 1800 Diagonal Rd., Suite 600 Alexandria, VA 22314 Tel: (703) 549-1001

Fax: (703) 549-1003

Chemtronics, Inc. 8125 Cobb Center Dr. Kennesaw, GA 30144 Tel: (404) 424-4888 Fax: (404) 424-4267

Cobehn, Inc. 640 Airport Road Winchester, VA 22602 Tel: (703) 665-0707 Fax: (703) 665-0768

Coleman Chemical, Inc. One Gemstar Lane Joliet, IL 60435 Tel: (815) 727-3900

Fax: (815) 727-3998

CRC Industries, Inc. 885 Louis Dr. Warminster, PA 18974 Tel: (215) 674-4300 Fax: (215) 674-2196 Aliphatic hydrocarbon blends, terpenes, surfactants, biodegradable emulsifiers, non-ozone depleting halogenated solvents, HCFCs. Specialty formulations for metal, urethane fiberglass (resin) clean-up processes via spray, wipe and immersion systems. Turn-key parts cleaning services. Recycling, disposal of generated waste solvents and waters.

Odor-free synthetic carbon blends to replace ozone-depleting halogenated solvents. Also aqueous and semi-aqueous degreasers and aqueous cleaners providing corrosion protection.

Aqueous-based formulations containing detergents with and without glycol ethers as well as blends of hydrocarbons and emulsifiers which, when used in combination, provide residue-free cleaning. Can be used on all metals, teflon, plastic, and painted coatings. Also specially designed cleaning equipment.

Ultra-pure cleaners for electronics and metals.

Manufacturer of a non-solvent-based precision batch cleaning system, utilizing solvent materials filtered to .2um ppm. Process removes flux, oils and particulates by agitation, wetting and drying in an inert atmosphere. Also used for hybrids, and PCBs.

Specialty formulations of non-ozone depleting HFCs available in 1995.

Mixtures of hydrocarbon solvents with and without glycol ethers. Package types include aerosols and bulk.

Creative Enterprizes 105 Anyway, Suite 209 Lake Jackson, TX 77566 Tel: (409) 292-0244

Fax: (409) 292-0440

Detrex Corp. 4000 Town Center, Suite 1100 Southfield, MI 48175 Tel: (313) 358-5800 Fax: (313) 358-5803

Ecolink 1481 Rock Mountain Blvd. Stone Mountain, GA 30083 Tel: (404) 621-8240 (800) 886-8240

Fax: (404) 621-8245

Electrolube Corporation USA 8200 Saint James Ave. Elmhurst, NY 11373 Tel: (718) 565-5200

Fax: (718) 565-5715

Environmental Recovery Resources, Inc. PO Box 36

South Salem, NY 10590 Tel: (914) 533-6175 Fax: (914) 533-6275

Enviro Tech International 2201 Clement Ave. #43 Alameda, CA 94501-1487

Tel: (510) 436-7603 Fax: (510) 436-7345 Specialize in low cost conversion of existing facilities to safely use alternative cleaning agents. Design new or custom cleaning equipment and processes. Also design environmentally secure drying equipment and processes.

Aqueous micro-emulsion solution for gross metal cleaning and equipment for use with the cleaning solution. Alternative/vapor degreasing process, specialty equipment and solvents for metals and electronics cleaning, chlorinated and HCFC solvents, and aqueous and semi-aqueous solvents.

Wide range of aqueous, semi-aqueous and non-aqueous chemistries. Formulations include a variety of hydrocarbon, NMP, DBE and terpene products as well as non-ozone depleting halogenated solvents. Manufacture a complete line of batch cleaning units for use with these solvents.

Non-toxic, non-flammable, biodegradable aqueous solvents suitable for in-line and batch equipment without modification. Also ideal for screen and pallet cleaning and precision metal degreasing (ferrous and non-ferrous).

Floating, dispersed, and dissolved hydrocarbon contaminants removed to surface water discharge limits, using: no coalescing plates, no centrifugal, no carbon absorption, no sorbent waste. Also offer systems and services to extend cleaning bath 'life' for more cost effective aqueous systems and waste water processing, and waste-minimized settling-pond and separator maintenance/remediation.

Non-flammable, drop-in replacement solvent for vapor degreasing of metals, electronics, and precision components. Leaves no residue. Requires no additional cleaning. For use in existing vapor degreasers. Also, cold or wipe cleaning applications of metals, high voltage circuits, oxygen system cleaning, and spot cleaning of electronics.

ETUS, Inc.

1511 Kastner Place Sanford, FL 32771

Tel: (407) 321-7910 Fax: (407) 321-3098

EXXON Chemical Co. PO Box 3272

Houston, TX 77253-3272

Tel: (800) 526-0749 Fax: (713) 870-6661

Fine Organics Corp. 205 Main St. PO Box 687 Lodi, NJ 07644-0687

Tel: (201) 472-6800 (800) 526-7480

Fax: (201) 472-6810

Firefreeze Worldwide, Inc. 270 Route 46 East Rockaway, NJ 07866

Tel: (973) 627-0722 Fax: (973) 627-2982

Inland Technology, Inc. 2612 Pacific Highway East

Tacoma, WA 98424 Tel: (206) 922-8932 (800) 552-3100

Fax: (206) 926-0577

International Specialty Products 1361 Alps Rd.

Wayne, NJ 07470 Tel: (201) 628-3000 Fax: (201) 628-4117

International Specials

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous-based formulations containing detergents with and without glycol ethers.

Cleaners comprised of narrow boiling range, high flash point aliphatic hydrocarbons. Low olefin and aromatic content. Low residue, low corrosivity to metals, low odor, low toxicity. Require no water handling, recyclable by distillation. Effective against a wide range of waxes, oils and greases found in metal and precision cleaning.

Non-hazardous and biodegradable solvent and solvent-emulsion based alternatives. Products are applicable to the transportation, aviation, electronics, and coatings industries. Also offer water-based alternative products.

Aqueous based degreasing, cleaning and odor eliminating formulations. Products are plant derived, environmentally friendly, non-corrosive, non-flammable, and fully biodegradable. Unique applications for waste water and sludge treatment and oil/grease separation and removal. Can be used in hand sprayers, water pressurized units, power washers, and other spray equipment.

Range of aqueous cleaners used in hand-wipe cleaning. Also other non ozone-depleting biodegradable solvents for various cleaning applications, including vapor degreasing, precision cleaning, paint stripping, and resin removal.

Specialty solvents comprised of N-methyl-2-pyrrolidone (NMP) and gamma-butyrolactone (BLO) as well as other proprietary ingredients. Products are biodegradable, water soluble, and recyclable.

JnJ Industries 195 E. Main St., Suite 303 Milford, MA 01757

Tel: (800) 554-9994 Fax: (508) 478-2221

Koch Specialty Chemicals P.O. Box 2608 Corpus Christi, TX 78403

Tel: (512) 242-8350 Fax: (512) 242-8353

MacDermid Incorporated 245 Freight Street Waterbury, CT 06702 Tel: (203) 575-5700

Micro Care Corp. 34 Ronzo Road Bristol, CT 06010 Tel: (203) 585-7912 Fax: (203) 585-7378

Fax: (203) 575-5630

Navy Brand Mfg Co. Division of Chemstar, Inc. 5111 Southwest Avenue St. Louis, MO 63110-3496 Tel: (800) 325-3312 (314) 865-5500

Fax: (314) 865-5509

Manufacturer of eight non-CFC formulations including a supersaturated wipe solvent.

A variety of aromatic and aliphatic hydrocarbon solvents, with a range of flashpoints, solvency power, and HAP content.

Low residue, low toxicity formulations, used for hand wipe operations, cold immersion tanks or other areas where precision cleaning is required.

Solvent cleaners based on but not limited to terpene hydrocarbon, alcohol, or HCFC technologies. Formulations are engineered for use in non-automated hand cleaning applications where rinsing is not available. Cleaners are effective in touch-up cleaning and precision cleaning of all types of flux residues, oils, grease and grime.

Industrial degreasers for metal cleaning and parts cleaning. Formulations are based on non-ozone depleting solvents. Also solvent-based, aqueous-based and also semi-aqueous-based products for a variety of cleaning applications on a host of substrates, both metallic and non-metallic.

Oakite Products, Inc. 50 Valley Road Berkeley Heights, NJ 07922

Tel: (908) 508-2107 Fax: (908) 464-9250

Occidental Chemical Corp. Technical Center PO Box 344 Niagara Falls, NY 14302 Tel: (800) 733-1165 Fax: (716) 278-7297

Orange Sol Industrial Products, Inc. 955 North Fiesta Blvd, Suite 1 Gilbert, AZ 85233-2801

Tel: (602) 497-8822 Fax: (602) 497-0444

PDM Incorporated 3512-6 Silverside Road Wilmington, DE 19810 Tel: (302) 478-0768

Fax: (302) 478-0299

Petroferm Inc. 5415 First Coast Highway Fernandina Beach, FL 32034

Tel: (904) 261-8286 Fax: (904) 261-6994 High-tech, state-of-the-art, recyclable cleaning products for use in immersion, ultrasonic, hand wipe, and other cleaning applications. Many aqueous and semi-aqueous formulations adhere to the Clean Air Act, OSHA regulations, and do not contain SARA 313 ingredients. Comprehensive lines of products that exhibit biodegradability, oil splitting or emulsifying features. Terpene-based cleaners have no flash point, and alkaline, aqueous formulations include non-phosphated, non-chelated, mildly alkaline cleaners.

Specially stabilized methylene chloride for a wide variety of applications. Formulations of halogenated toluenes and benzotrifluorides for cold cleaning of metals and electronics. Ethylene based glycol ethers for use in many cleaning formulations.

Aqueous, semi-aqueous cleaners, hydrocarbon-based products and other cleaning alternatives and equipment (parts, washers). Effective cleaners for metal, electronic, precision and maintenance cleaning, suitable for agitation, soak, spray, ultrasonic and handwipe cleaning.

Solvent formulations for cleaning/removing grease, adhesives, tar/asphalt, waxes, and also used in degreasers, hand wipe cleaners, carpet cleaners and general purpose cleaners.

Broad line of formulations based on terpenes, ester, and aliphatic hydrocarbons and blends of these organic solvents with surfactants. Products are used for cold (hand) cleaning and in combination with various cleaning equipment. Products can be removed by evaporation, water, alcohols or nonflammable fluorinated solvents. Both products and rinse media can be recycled.

P-T Technologies, Inc. 108 4th Ave. South Safety Harbor, FL 34695 Tel: (800) 441-7874 Fax: (813) 725-9544

Purac America, Inc 111 Barclay Blvd Suite 280 Lincolnshire, IL 60069 Tel: (708) 634-6330 Fax: (708) 634-1992

QO Chemicals, Inc. P.O. Box 2500 One Great Lakes Blvd West Lafayette, IN 47906 Tel: (800) 621-9521 Fax: (317) 497-6287

The Rission Group Inc. 13349 Michigan Ave. Dearborn, MI 48126 Tel: (313) 581-2620 Fax: (313) 581-3758

Rite Off, Inc. Seaford Industrial Park P.O. Box 1070 Seaford, DE 19973 Tel: (800) 645-5853 (302) 628-2100 Fax: (800) 571-2211

Rochester Midland Corp. 333 Hollenbeck St. Rochester, NY 14621 Tel: (716) 336-2200 Fax: (716) 467-4406

Non-halogenated hydrocarbon-based specialty cleaning and degreasing formulations for precision cleaning. Also offer vapor degreaser alternatives, ionic contaminant removers, acetone, MEK alternatives for specific industrial applications.

Range of lactate esters used as safe and environmental friendly cleaners. Applications include general degreasing, flux removal, polymer removal, metal finishing, wipe solvent, precision cleaning in various industries.

Specialty solvents used in various cleaning applications. Solvents are bio-degradable, water miscible, and not photo-chemically reactive.

Aqueous and non-aqueous formulations containing surfactants with and without glycol ethers. Hydrocarbons and blends of hydrocarbons with emulsifiers also available.

Wide variety of cleaning and maintenance formulations using alcohols, terpenes, HFCs, hydrocarbons and chlorinated solvents. Specialists in aerosol technology, liquid formulations also available.

Formulations comprised of hydrocarbon and/or terpene solvents. Some also contain surfactants. Many contain alkaline builders and chelants as well as glycol ethers. Some aqueous-based or water-compatible formulations exhibit good biodegradability. Many products allow for good oil/grease separation upon standing.

Roly International P.O. Box 5103 Ventura, CA 93005 Tel: (805) 644-8664

Fax: (805) 650-8222

Selig Chemical Industries PO Box 43106 840 Selig Dr. SW Atlanta, GA 30378 Tel: (404) 691-9220 Fax: (404) 699-7024

Solvent Kleene, Inc. 131.5 Lynnfield Street Peabody, MA 01960 Tel: (508) 531-2279 Fax: (508) 532-9304

Storchem Inc. 3600 Billings Court, Suite 110 Burlington, Ontario Canada L7N 3N6

Terpene Technologies Inc. 3400 Ridge Rd. W, Suite 293 Rochester, NY 14626 Tel: (716) 546-8455 (716) 777-0790 Fax: (716) 227-3834

Thierica 900 Clancy Ave. Grand Rapids, MI 49503 Tel: (616) 458-1538 Fax: (616) 458-7120 Cleaners for degreasing, cleaning and corrosion protection applications. Also other cleaners designed for avionics, computer applications, turbine blades used in jet engines, and glass cleaning.

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous-based formulations containing detergents with and without glycol ethers and some containing d-limonene.

Formulations, replacing chlorinated solvents, compatible with existing equipment, suitable with ferrous and non-ferrous metals, for oil removal, degreasing, removing flux, wax. Company offers on-site solvent-recovery closed-loop systems.

Aqueous-based terpene formulations containing detergents and emulsifiers; semi-aqueous cleaners and degreasers based on terpene alcohols and hydrocarbons; terpene alcohol and hydrocarbon blends used as non-water soluble solvents.

Terpene alcohol and hydrocarbon blends used as non-water soluble solvents, semi-aqueous cleaners and degreasers based on terpene alcohols and hydrocarbons. Also offer aqueous-based terpene formulations containing detergents and emulsifiers.

New low cost spray equipment manages extremely difficult cleaning jobs. Used with large and small parts containing baked grease and paint soils. Designed to be safe and environmentally secure with hydrocarbon and aqueous cleaning agents. Stainless steel construction.

Union Camp Corp. Bush Boake Allen Division PO Box 37617 Jacksonville, FL 32236 Tel: (904) 783-2180

(800) 874-9220 Fax: (904) 786-6495

U.S. Polychemical Corp. Route 45 Chestnut Ridge Road Chestnut Ridge, NY 10977 Tel: (914) 356-5530 (800) 431-2072

Fax: (914) 356-6656

Working Solutions, Inc. 938 Cortlandt Street Houston, TX 77008 Tel: (800) 829-4419 Fax: (713) 862-5591

W.R. Grace & Co. Metalworking Fluids Group 55 Hayden Ave. Lexington, MA 02173 Tel: (617) 861-6600 Fax: (617) 861-6600

Zip-Chem Products 1860 Dobbin Dr. San Jose, CA 95133 Tel: (408) 729-0291 (800) 648-2661 Fax: (408) 272-8062 Range of wood terpene-based alternative solvents for semi-aqueous and solvent only cleaning processes and maintenance cleaning applications. High solvency and high soil loading properties for removal of solder fluxes, heavy oils and greases, polishing compounds, carbonaceous deposits etc. to the highest cleanliness standards.

Manufacturers of oil and grease buffing compounds, flux removing chemistries with non-chlorinated solvents, semi-aqueous, and aqueous technologies. Also automated cleaning systems with recirculating agitation or ultrasonics for turn-key applications.

Aqueous, semi-aqueous and solvent cleaning technologies and equipment.

Wide range of aqueous cleaning formulations for metal. precision, and maintenance cleaning. Includes formulations that are phosphate-free. Suitable for agitation, soak, spray, ultrasonic and hand wipe applications.

Aqueous, semi-aqueous aliphatic hydrocarbon, terpene and alcohol-based cleaners. Application oriented packaging like wipes, aerosols, specialty containers, and other delivery systems available.

NON-OZONE DEPLETING CHLORINATED SOLVENTS

Asahi Glass America, Inc. 450 Lexington Ave., Suite 1920 New York, NY 10017-3911

Tel: (212) 687-4600 Fax: (212) 687-4663 Methylene chloride for general metals, electronics and precision cleaning.

A.W. Chesterton 225 Fallon Road Middlesex Industrial Park Stoneham, MA 02180-2999

Tel: (617) 438-7000 Fax: (617) 438-8971

Carroll Company 2900 W. Kingsley Road Garland, TX 75041 Tel: (800) 527-5722 Fax: (214) 840-0678

Chemical Marketing Corporation of America 180 Humboldt Avenue North

Minneapolis, MN 55405 Tel: (612) 377-1971

Fax: (612) 377-5597

Chemical Solvents, Inc. 3751 Jennings Rd. Cleveland, OH 44109 Tel: (216) 741-9310 (800) 362-0693

Fax: (216) 741-4080

Chemtronics, Inc. 8125 Cobb Center Dr. Kennesaw, GA 30144

Tel: (404) 424-4888 Fax: (404) 424-4267

Cobehn, Inc. 640 Airport Road Winchester, VA 22602 Tel: (703) 665-0707

Fax: (703) 665-0768

A complete line of aqueous cleaners containing detergents, with and without glycol ethers. Hydrocarbon solvents and solvent blends. Non-ozone depleting chlorinated solvents. Provide free assistance to customers wishing to replace ozone-depleting chemicals. Synthetic machining fluids, lubricants and maintenance specialties.

Aqueous cleaning formulations containing detergents with and without glycol ethers. Formulations made from hydrocarbons and terpenes with and without emulsifiers. Specialty solvent blends for printing ink cleanup, electric motor degreasing, cleaning printed circuit boards, and assorted textile mill applications.

Common solvents including aliphatics, aromatics, alcohols, chlorinateds, and ketones.

Aliphatic hydrocarbon blends, terpenes, surfactants, biodegradable emulsifiers, non-ozone depleting halogenated solvents, HCFCs. Specialty formulations for metal, urethane fiberglass (resin) clean-up processes via spray, wipe and immersion systems. Turn-key parts cleaning services. Recycling, disposal of generated waste solvents and waters.

Ultra-pure cleaners for electronics and metals.

Manufacturer of a non-solvent-based precision batch cleaning system, utilizing solvent materials filtered to .2um ppm. Process removes flux, oils and particulates by agitation, wetting and drying in an inert atmosphere. Also used for hybrids, and PCBs.

Coleman Chemical, Inc. One Gemstar Lane Joliet, IL 60435

Tel: (815) 727-3900 Fax: (815) 727-3998

Container Products Corp. PO Box 3767 Wilmington, NC 28406

Tel: (919) 392-6100 Fax: (919) 392-6778

Detrex Corp. 4000 Town Center, Suite 1100 Southfield, MI 48175 Tel: (313) 358-5800

Dow U.S.A. Midland, MI 48674 Tel: (800) 337-4369 Fax: (517) 832-1465

Fax: (313) 358-5803

Ecolink 1481 Rock Mountain Blvd. Stone Mountain, GA 30083 Tel: (404) 621-8240 (800) 886-8240 Fax: (404) 621-8245

Electrolube Corporation USA 8200 Saint James Ave. Elmhurst, NY 11373 Tel: (718) 565-5200 Fax: (718) 565-5715

Hubbard-Hall, Inc. PO Box 790 Waterbury, CT 06725 Tel: (203) 754-2171 (800) 648-3412 Fax: (203) 596-9544 (203) 756-9017 Specialty formulations of non-ozone depleting HFCs available in 1995.

Systems incorporating a variety of aqueous cleaning techniques which include filtered negative pressure chambers, high pressure chambers, and mobile cleaning systems.

Aqueous micro-emulsion solution for gross metal cleaning and equipment for use with the cleaning solution. Alternative/vapor degreasing process, specialty equipment and solvents for metals and electronics cleaning, chlorinated and HCFC solvents, and aqueous and semi-aqueous solvents.

Trichloroethylene, methylene chloride, and perchloroethylene.

Wide range of aqueous, semi-aqueous and non-aqueous chemistries. Formulations include a variety of hydrocarbon, NMP, DBE and terpene products as well as non-ozone depleting halogenated solvents. Manufacture a complete line of batch cleaning units for use with these solvents.

Non-toxic, non-flammable, biodegradable aqueous solvents suitable for in-line and batch equipment without modification. Also ideal for screen and pallet cleaning and precision metal degreasing (ferrous and non-ferrous).

Kester Solder Division Litton Industries 515 E. Touhy Avenue
Des Plaines, IL 60018-2675

Tel: (708) 297-1600 Fax: (708) 390-9338

Navy Brand Mfg Co. Division of Chemstar, Inc. 5111 Southwest Avenue St. Louis, MO 63110-3496 Tel: (800) 325-3312 (314) 865-5500

Fax: (314) 865-5509

Oakite Products, Inc. 50 Valley Road Berkeley Heights, NJ 07922

Tel: (908) 508-2107 Fax: (908) 464-9250

Occidental Chemical Corp. Technical Center PO Box 344 Niagara Falls, NY 14302

Tel: (800) 733-1165 Fax: (716) 278-7297

PPG Industries, Inc. Chemicals Group One PPG Place Pittsburgh, PA 15272

Tel: (800) 243-6774 Fax: (412) 434-2401 Alcohol-based cleaners, solvent blends, and aqueous saponifiers. Also manufacture noclean, water-clean, and VOC-free; fluxes, solders, and solder pastes.

Industrial degreasers for metal cleaning and parts cleaning. Formulations are based on non-ozone depleting solvents. Also solvent-based, aqueous-based and also semi-aqueous-based products for a variety of cleaning applications on a host of substrates, both metallic and non-metallic.

High-tech, state-of-the-art, recyclable cleaning products for use in immersion, ultrasonic, hand wipe, and other cleaning applications. Many aqueous and semi-aqueous formulations adhere to the Clean Air Act, OSHA regulations, and do not contain SARA 313 ingredients. Comprehensive lines of products that exhibit biodegradability, oil splitting or emulsifying features. Terpene-based cleaners have no flash point, and alkaline, aqueous formulations include non-phosphated, non-chelated, mildly alkaline cleaners.

Specially stabilized methylene chloride for a wide variety of applications. Formulations of halogenated toluenes and benzotrifluorides for cold cleaning of metals and electronics. Ethylene based glycol ethers for use in many cleaning formulations.

Trichloroethylene, perchloroethylene, and methylene chloride.

Rite Off, Inc. Seaford Industrial Park P.O. Box 1070 Seaford, DE 19973 Tel: (800) 645-5853 (302) 628-2100 Fax: (800) 571-2211

Rochester Midland Corp. 333 Hollenbeck St. Rochester, NY 14621 Tel: (716) 336-2200 Fax: (716) 467-4406

Selig Chemical Industries PO Box 43106 840 Selig Dr. SW Atlanta, GA 30378 Tel: (404) 691-9220 Fax: (404) 699-7024

Working Solutions, Inc. 938 Cortlandt Street Houston, TX 77008 Tel: (800) 829-4419 Fax: (713) 862-5591

Zip-Chem Products 1860 Dobbin Dr. San Jose, CA 95133 Tel: (408) 729-0291 (800) 648-2661 Fax: (408) 272-8062

HCFCS

Allied-Signal PO Box 1139R Morristown, NJ 07960 Tel: (201) 455-4848 Fax: (201) 455-2745 Wide variety of cleaning and maintenance formulations using alcohols, terpenes, HFCs, hydrocarbons and chlorinated solvents. Specialists in aerosol technology, liquid formulations also available.

Formulations comprised of hydrocarbon and/or terpene solvents. Some also contain surfactants. Many contain alkaline builders and chelants as well as glycol ethers. Some aqueous-based or water-compatible formulations exhibit good biodegradability. Many products allow for good oil/grease separation upon standing.

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous-based formulations containing detergents with and without glycol ethers and some containing d-limonene.

Aqueous, semi-aqueous and solvent cleaning technologies and equipment.

Aqueous, semi-aqueous aliphatic hydrocarbon, terpene and alcohol-based cleaners. Application oriented packaging like wipes, aerosols, specialty containers, and other delivery systems available. Asahi Glass America, Inc. 450 Lexington Ave., Suite 1920 New York, NY 10017-3911

Tel: (212) 687-4600 Fax: (212) 687-4663

Atochem North America Three Parkway Philadelphia, PA 19102 Tel: (215) 587-7192

Fax: (215) 587-7199

A.W. Chesterton 225 Fallon Road Middlesex Industrial Park Stoneham, MA 02180-2999

Tel: (617) 438-7000 Fax: (617) 438-8971

Chemical Solvents, Inc. 3751 Jennings Road Cleveland, OH 44109 Tel: (216) 741-9310 Fax: (216) 741-4080

Chemtronics, Inc. 8125 Cobb Center Dr. Kennesaw, GA 30144 Tel: (404) 424-4888 Fax: (404) 424-4267

Cobehn, Inc. 640 Airport Road Winchester, VA 22602 Tel: (703) 665-0707 Fax: (703) 665-0768 HCFC-225ca/cb can be used as a single product as well as an alcohol mixture or with surface active agents. Compatible with most metals and plastics, and applicable for degreasing, defluxing, particle-removing, drying and dry-cleaning, with low total energy consumption.

A complete line of aqueous cleaners containing detergents, with and without glycol ethers. Hydrocarbon solvents and solvent blends. Non-ozone depleting chlorinated solvents. Provide free assistance to customers wishing to replace ozone-depleting chemicals. Synthetic machining fluids, lubricants and maintenance specialties.

Aliphatic hydrocarbon blends, terpenes, surfactants, biodegradable emulsifiers, non-ozone depleting halogenated solvents, HCFCs. Specialty formulations for metal, urethane fiberglass (resin) clean-up processes via spray, wipe and immersion systems. Turn-key parts cleaning services. Recycling, disposal of generated waste solvents and waters.

Ultra-pure cleaners for electronics and metals.

Manufacturer of a non-solvent-based precision batch cleaning system, utilizing solvent materials filtered to .2um ppm. Process removes flux, oils and particulates by agitation, wetting and drying in an inert atmosphere. Also used for hybrids, and PCBs.

Coleman Chemical, Inc. One Gemstar Lane

Joliet, IL 60435

Tel: (815) 727-3900 Fax: (815) 727-3998

CRC Industries, Inc. 885 Louis Dr. Warminster, PA 18974

Tel: (215) 674-4300 Fax: (215) 674-2196

Detrex Corp. 4000 Town Center, Suite 1100 Southfield, MI 48175 Tel: (313) 358-5800

Fax: (313) 358-5803

Ecolink 1481 Rock Mountain Blvd. Stone Mountain, GA 30083

Tel: (404) 621-8240 (800) 886-8240 Fax: (404) 621-8245

Electrolube Corporation USA 8200 Saint James Ave. Elmhurst, NY 11373 Tel: (718) 565-5200

Fax: (718) 565-5715

Micro Care Corp. 34 Ronzo Road Bristol, CT 06010 Tel: (203) 585-7912 Fax: (203) 585-7378

o Road

Specialty formulations of non-ozone depleting HFCs available in 1995.

Aerosol and bulk packages of HCFCs. Nonflammable and leaves no residue. May not be compatible with some plastics such as polycarbonates and polystyrene.

Aqueous micro-emulsion solution for gross metal cleaning and equipment for use with the cleaning solution. Alternative/vapor degreasing process, specialty equipment and solvents for metals and electronics cleaning, chlorinated and HCFC solvents, and aqueous and semi-aqueous solvents.

Wide range of aqueous, semi-aqueous and non-aqueous chemistries. Formulations include a variety of hydrocarbon, NMP, DBE and terpene products as well as non-ozone depleting halogenated solvents. Manufacture a complete line of batch cleaning units for use with these solvents.

Non-toxic, non-flammable, biodegradable aqueous solvents suitable for in-line and batch equipment without modification. Also ideal for screen and pallet cleaning and precision metal degreasing (ferrous and non-ferrous).

Solvent cleaners based on but not limited to terpene hydrocarbon, alcohol, or HCFC technologies. Formulations are engineered for use in non-automated hand cleaning applications where rinsing is not available. Cleaners are effective in touch-up cleaning and precision cleaning of all types of flux residues, oils, grease and grime.

Rite Off, Inc. Seaford Industrial Park P.O. Box 1070 Seaford, DE 19973 Tel: (800) 645-5853 (302) 628-2100

Fax: (800) 571-2211

Selig Chemical Industries 840 Selig Dr. SW Atlanta, GA 30336-2240 Tel: (404) 691-9220 Fax: (404) 699-7024

Working Solutions, Inc. 938 Cortlandt Street Houston, TX 77008 Tel: (800) 829-4419 Fax: (713) 862-5591

Wide variety of cleaning and maintenance formulations using alcohols, terpenes, HFCs, hydrocarbons and chlorinated solvents. Specialists in aerosol technology, liquid formulations also available.

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous-based formulations containing detergents with and without glycol ethers and some containing d-limonene.

Aqueous, semi-aqueous and solvent cleaning technologies and equipment.

OTHER CLEANING ALTERNATIVES AND EQUIPMENT

3M Company

Specialty Chemicals Division

Building 223-65-04

St. Paul, MN 55144

Tel: (612) 733-1710

Fax: (612) 733-6791

ACCEL

1825 E. Piano Parkway

Piano, TX 75074-8129

Tel: (214) 424-3525

Fax: (214) 424-7526

Altos Engineering, Inc.

6009 N. 61 Ave

Glendale, AZ 85301

Tel: (602) 931-8434

Fax: (602) 937-6396

Ambassador Marketing

Route 1-Box 207

St. David, AZ 85630

Tel: (602) 720-4310

Fax: (602) 720-4068

Ardrox Inc.

16961 Knott Avenue

La Mirada, CA 90638

Tel: (714) 739-2821

Fax: (714) 670-6480

A.W. Chesterton

225 Fallon Road

Middlesex Industrial Park

Stoneham, MA 02180-2999

Tel: (617) 438-7000

Fax: (617) 438-8971

Perfluorocarbon-based fluids used as rinsing materials in specialty niche cleaning applications. These fluids are especially designed for cleaning processes for high-value parts when aqueous or semi-aqueous cleaning are not viable options.

System utilizing centrifugal cleaning to provide superior washing, effective rinsing, and drying of populated printed circuit boards and hybrid circuits. Includes automatic solvent recycling and rinse water purification with no required drain. Compatible with chlorocarbons, fluorocarbons, H_20 , and terpenes.

Batch and inline cleaning equipment with nonchemical, thermal vacuum drying of rinse waters. Detergent formulations available with and without glycol ethers.

Aqueous and alcohol-based cleaners for low residue degreasing and dewaxing applications. Formulations are nonflammable and nonfuming.

Full range of aqueous-based formulations as well as aliphatic hydrocarbon-based blends, terpene-based formulations, hydrocarbonbased solvent blends and other cleaning alternatives and equipment.

A complete line of aqueous cleaners containing detergents, with and without glycol ethers. Hydrocarbon solvents and solvent blends. Non-ozone depleting chlorinated solvents. Provide free assistance to customers wishing to replace ozone-depleting chemicals. Synthetic machining fluids, lubricants and maintenance specialties.

Babcock & Wilcox CIM Systems 4004 Murray Place Lynchburg, VA 24501 Tel: (804) 948-1361

Fax: (804) 948-1313

Baron-Blakeslee, Inc. 1500 West 16th St. Long Beach, CA 90813 Tel: (800) 548-4422 Fax: (310) 491-1091

Blackstone Ultrasonics, Inc. 9 North Main St. Jamestown, NY 14701 Tel: (716) 665-2340 (800) 766-6606

Branson Ultrasonics Inc. 41 Eagle Rd. Danbury, CT 06810 Tel: (203) 796-0400 Fax: (203) 796-0381

Fax: (716) 665-2480

Break-Free, Inc. 1035 S. Linwood Avenue Santa Ana, CA 92705-4396 Tel: (714) 953-1900

Fax: (714) 953-0402

Provide turnkey automated cleaning and inspection (SQC/SPC) systems for complete integration into process cleaning lines, including aqueous and non-aqueous systems, material handling, drying, cleanliness and geometric inspection, and computer protocol communication. Full-scope of services from process selection, development, installation, training, and continued follow-up support.

Full line of cleaning equipment for use with aqueous, semi-aqueous, HCFC, and chlorinated solvents. Closed loop system incorporating vacuum drying available (near zero emissions).

Complete range of ultrasonic cleaning products from stand-alone and bench-top heated tanks to wash/multiple rinse/dry console systems with optional material handling and automation. Also, fluxless ultrasonic solder pots for tinning leads and electronics.

Ultrasonic cleaning equipment and integrated cleaning systems for metal, electronic, and precision cleaning requirements. Manual and fully automated material handling/transport systems. Equipment for aqueous, semi-aqueous and solvent chemistry.

Unique blend of orange oils and highly refined synthetic hydrocarbons formulated as a safe replacement for most chlorinated or halogenated, ozone-depleting solvents. Applications include degreasing, removal of oils, wax, tar, adhesives, fresh paint and oilbased inks. Also water-based, alkaline cleaners for the removal of heavy soil contaminants.

Carroll Company 2900 W. Kingsley Road Garland, TX 75041 Tel: (800) 527-5722 Fax: (214) 840-0678

Castrol, N.A., Specialty Products Division 16715 Von Karman Avenue, Suite 230 Irvine, CA 92714

Tel: (714) 660-9414 Fax: (714) 660-9374

CF TECHnologies, Inc. 1 Westinghouse Plaza, Suite 200 Hyde Park, MA 02136-2059 Tel: (617) 364-2500

Chemical Solvents, Inc. 3751 Jennings Road Cleveland, OH 44109 Tel: (216) 741-9310

Fax: (617) 364-2550

Fax: (216) 741-4080

Chem-Tech International 1800 Diagonal Rd., Suite 600 Alexandria, VA 22314 Tel: (703) 549-1001

Fax: (703) 549-1003

Church & Dwight Co., Inc. 469 N. Harrison St. Princeton, NJ 08543-5297 Tel: (609) 497-7230

Aqueous cleaning formulations containing detergents with and without glycol ethers. Formulations made from hydrocarbons and terpenes with and without emulsifiers. Specialty solvent blends for printing ink cleanup, electric motor degreasing, cleaning printed circuit boards, and assorted textile mill applications.

Fluoroclean™ X-100, a PFC, which is acceptable for use in certain high performance cleaning and drying applications such as the residual free removal of specialized halogenated lubricants used with aerospace and avionics components, oxygen service equipment and components, medical services and equipment, critical analytical devices, and oil and gas exploration and associated supply components.

Supercritical fluid extraction cleaning process for removing organic solvent, oil and lubricant residues. May also be effective for particulate removal when used in conjunction with agitation and/or ultrasonics.

Aliphatic hydrocarbon blends, terpenes, surfactants, biodegradable emulsifiers, non-ozone depleting halogenated solvents, HCFCs. Specialty formulations for metal, urethane fiberglass (resin) clean-up processes via spray, wipe and immersion systems. Turn-key parts cleaning services. Recycling, disposal of generated waste solvents and waters.

Aqueous-based formulations containing detergents with and without glycol ethers as well as blends of hydrocarbons and emulsifiers which, when used in combination, provide residue-free cleaning. Can be used on all metals, teflon, plastic, and painted coatings. Also specially designed cleaning equipment.

Cincinnati Industrial Machinery
PO Box 62027
3280 Hageman St.
Cincinnati, OH 45241 (street add.)
45262 (PO Box)

Tel: (513) 769-0700 Fax: (513) 769-0697

Circle-Prosco, Inc. 2017 Yost Ave. Bloomington, IN 47403

Tel: (812) 339-3653 Fax: (812) 331-2566

Cobehn, Inc. 640 Airport Road Winchester, VA 22602 Tel: (703) 665-0707 Fax: (703) 665-0768

Cold Jet, Inc. 455 Wards Corner Rd. Loveland, OH 45140 Tel: (513) 831-3211 Fax: (513) 831-1209

Conceptronic, Inc. 6 Post Rd.
Portsmouth, NH 03801
Tel: (603) 431-6262
Fax: (603) 431-3303

Container Products Corp. PO Box 3767 Wilmington, NC 28406 Tel: (919) 392-6100 Fax: (919) 392-6778 Custom designed machines for cleaning, surface preparation and other processing of metal and non-metallic parts.

Aqueous, alkaline, etchant cleaners for ferrous and non-ferrous applications. Aqueous, acidic, neutral, and alkaline oil rejecting cleaners with or without glycol ethers for ferrous and non-ferrous applications. Water miscible, semi-aqueous cleaners (electronics cleaning). Water emulsifiable cleaners containing aliphatic and terpene solvents. Evaporative oils for no clean applications.

Manufacturer of a non-solvent-based precision batch cleaning system, utilizing solvent materials filtered to .2um ppm. Process removes flux, oils and particulates by agitation, wetting and drying in an inert atmosphere. Also used for hybrids, and PCBs.

Dry ice blasting process using small pellets of carbon dioxide (dry ice) as the blasting media. Pellets sublimate on contact leaving no media for containment or disposal. Process currently being used in molded products, baking/food production, hazardous cleaning, automotive, aerospace (military and commercial) and contract cleaning industries.

Semi-aqueous, spray-based, totally closed-loop modular batch cleaning systems utilizing non-flammable, naturally derived alcohol solvents in solution with water. Also have an ultrasonic batch cleaning system for metallic and non-metallic electronic surfaces and other difficult-to- clean non-electronic parts of unusual geometric shape.

Systems incorporating a variety of aqueous cleaning techniques which include filtered negative pressure chambers, high pressure chambers, and mobile cleaning systems.

Creative Enterprizes 105 Anyway, Suite 209 Lake Jackson, TX 77566 Tel: (409) 292-0244

Fax: (409) 292-0244

Crest Ultrasonics Scotch Rd. - Mercer County Airport PO Box 7266 Trenton, NJ 08628 Tel: (609) 883-4000 (800) 441-9675

Fax: (609) 883-6452

DEFLEX Corp. 631 Ruberta Ave. Glendale, CA 91201 Tel: (818) 241-7500 Fax: (818) 241-7532

Dell-Chem of Arizona 7119 E. Shea Blvd., Suite 106-224 Scottsdale, AZ 85254 Tel: (602) 951-5812

Dow Corning Corp. PO Box 994 Midland, MI 48686-0994 Tel: (517) 496-4000 Fax: (517) 496-4511

Fax: (602) 948-4172

Durr Industries, Inc. 10301 Enterprise Dr. Davisburg, MI 48350 Tel: (313) 625-5400 Fax: (313) 625-5966 Specialize in low cost conversion of existing facilities to safely use alternative cleaning agents. Design new or custom cleaning equipment and processes. Also design environmentally secure drying equipment and processes.

Precision cleaning equipment (primarily ultrasonic systems) from standard wash-rinsedry cleaning consoles to large custom automated batch cleaning equipment. Ultrasonic generator is sweep frequency generator capable of cavitating both aqueous and semi-aqueous chemistries. Full line of aqueous-based cleaning chemistries for ultrasonic applications as well.

Energized supercritical fluids. Gross and precision cleaning machines which accept most standard baskets and loads to 250 lbs for cleaning a variety of products. Other products include dense fluid recycling systems and various racks/fixtures.

Aqueous and alcohol-based cleaners for low residue degreasing and dewaxing applications. Formulations are nonflammable and nonfuming.

Volatile methyl siloxane (VMS) fluids containing no additives. Effective in removing cutting fluids, greases, body oils, and particles in cleaning of precision parts and metals. Easily recyclable by distillation an/or filtration.

All aqueous and semi-aqueous systems recycle and reuse process water. Solvent systems reduce emissions by 99% over conventional degreasing systems.

Ecolink

1481 Rock Mountain Blvd. Stone Mountain, GA 30083

Tel: (404) 621-8240 (800) 886-8240 Fax: (404) 621-8245

EcoSoft Systems Industrial 104 Clearfield Lane, Suite 204

Tel: (215) 384-7200 Fax: (215) 383-9951

Coatesville, PA 19320

Electronic Controls Design Inc. 4287-A SE International Way Milwaukie, OR 97006 Tel: (503) 659-6100 (800) 323-4548

Fax: (503) 659-4422

Environmental Solvents Corp. 1840 Southside Blvd. Jacksonville, FL 32216 Tel: (904) 724-1990

Fax: (904) 724-1990

EnviroPro Technologies PO Box 5051 2930 West 22nd St. Erie, PA 16512

Tel: (814) 838-5888 Fax: (814) 833-0145

Envirosolutions Inc. 335 Post Road West Westport, CT 06880 Tel: (203) 454-5902 Fax: (203) 222-0190

Wide range of aqueous, semi-aqueous and non-aqueous chemistries. Formulations include a variety of hydrocarbon, NMP, DBE and terpene products as well as non-ozone depleting halogenated solvents. Manufacture a complete line of batch cleaning units for use with these solvents.

Electronic descaling systems for hard water treatment.

Coniferous (pine) terpene alternatives to hydrocarbon-based solvent cleaning. Can be used in single cold immersion or in solventwash/solvent rinse/dry process for water-free precision cleaning and defluxing.

One step cleaning system using supercritical carbon dioxide.

Biodegradable, non-caustic, neutral pH cleaner which is used in a closed loop parts washing system. Several different formulations developed to suit a variety of cleaning needs. Customized parts washing equipment is matched to the cleaning chemicals to ensure optimum performance.

Exxon Chemical Co. PO Box 3272 Houston, TX 77253-3272 Tel: (800) 526-0749

Fax: (713) 870-6661

Forward Technology Industries, Inc. 13500 County Road 6 Minneapolis, MN 55446-2777

Tel: (612) 559-1785 Fax: (612) 559-3929

Finishing Equipment Inc. 3640 Kennebec Dr. St. Paul, MN 55122 Tel: (612) 452-1860 Fax: (612) 452-9851

Firefreeze Worldwide, Inc. 270 Route 46 East Rockaway, NJ 07866 Tel: (973) 627-0722

Fax: (973) 627-2982

Acetate ester cleaners, as well as hydrocarbon fluid components with a broad range of properties available for use in blended formulations. Low residue, low corrosivity to metals. Effective for broad range of grimes (electronics). Formulations comprised of esters and hydrocarbon components effective in removing greases, oils and waxes found in metal, electronics, and precision cleaning.

Standard and custom FM-approved flammable solvent vapor degreasers for use with alcohol, cyclohexane, VMS solvents, azeotropes, and co-solvent applications. M/BACT vapor degreasers for use with PFCs, HCFCs and HFCs. Automation and superheat drying offered. Also other custom aqueous and semi-aqueous cleaning equipment available.

Aqueous, semi-aqueous and solvent cleaning systems available. From manual systems to automated high-production cleaning lines, with ultrasonics available as needed. Specialize in automated enclosed vapor degreasers for efficient use of the non-ozone depleting chlorinated solvents.

Aqueous based degreasing, cleaning and odor eliminating formulations. Products are plant derived, environmentally friendly, non-corrosive, non-flammable, and fully biodegradable. Unique applications for waste water and sludge treatment and oil/grease separation and removal. Can be used in hand sprayers, water pressurized units, power washers, and other spray equipment.

Flura Corporation 610 Rock Hill Road Newport, TN 37821 Tel: (615) 623-4111

Fax: (615) 623-4111

FMT Inc. (Findlay Machine & Tool) 1950 Industrial Dr. Findlay, OH 4584O

Tel: (419) 422-0768 (800) 878-8011 Fax: (419) 422-0072

Fremont Industries, Inc. 4400 Valley Industrial Park Shakopee, MN 55379 Tel: (612) 445-4121 Fax: (612) 496-3027

GaSonics/IPC 2730 Junction Ave. San Jose, CA 95134-1909 Tel: (408) 944-0212

Fax: (408) 473-9530

Hurricane Systems, Inc. 2080 Brooklyn Rd. PO Box 867 Jackson, MI 49204 Tel: (517) 787-3481

Fax: (517) 787-2349

Insitu Environmental Chemical Co. 8402 East Redwing Rd. Scottsdale, AZ 85250-5740 Tel: (602) 948-9209

Tel: (602) 948-9209 Fax: (602) 951-0715

International Specialty Products 1361 Alps Rd. Wayne, NJ 07470 Tel: (201) 628-3000

Fax: (201) 628-4117

Perfluorocarbons used for high performance cleaning applications where no other compatible cleaners are available.

Custom engineered parts cleaning equipment, standard parts cleaning equipment, and pollution control equipment.

Aqueous-based metal cleaning and nonmetallic substrate cleaning formulations and application equipment. Includes spray, soak, and ultrasonic cleaners in rinse and no-rinse formulations.

Low temperature plasma (RF discharge) equipment/process utilizes industrial grade gases such as oxygen, air, and nitrogen or combinations thereof. Highly effective on all materials and widely used in electronic device cleaning, flux/solder removal and medical device cleaning.

Wide range of "off-the-shelf", semi-custom, and custom parts cleaning systems using water-based cleaning compounds. Systems include: belt, rotary and overhead conveyors for continuous and batch processing; carousel, cabinet, and agitation tank washers; multistage wash, rinse, oxidation inhibit, and dry; oil removal and oil skimming devices; electric, gas, and steam heat packages.

Aqueous and alcohol-based cleaners for low residue degreasing and dewaxing applications. Formulations are nonflammable and nonfuming.

Specialty solvents comprised of N-methyl-2-pyrrolidone (NMP) and gamma-butyrolactone (BLO) as well as other proprietary ingredients. Products are biodegradable, water soluble, and recyclable.

JM Associates, Inc. 225 Railroad Avenue Bedford Hills, NY 10507 Tel: (914) 241-3795

Fax: (914) 241-3731

JnJ Industries 195 E. Main St. Suite 303 Milford, MA 01757 Tel: (800) 554-9994

Fax: (508) 478-2221

KLN Ultraschall GmbH Siegfriedstr. 124 D-64646 Heppenheim GERMANY

Tel: +49-6252-14-0 Fax: +49-6252-14-277

Kyzen Corporation 430 Harding Industrial Drive Nashville, TN 37211 Tel: (615) 831-0888 Fax: (615) 831-0889

Lewis Corp. 102 Willenbrock Rd. Oxford, CT 06478-1033 Tel: (203) 264-3100

Fax: (203) 264-3102

New bioremediation technology: safe, non-toxic, non-caustic, neutral pH, non-flammable aqueous cleaning solution with hydrocarbons. Has successfully replaced hazardous solvents in vehicle maintenance, metals cleaning and precision manufacturing operations. Also solvents for auto, marine, contaminated soil and grease cleaning. Application of cleaners by immersion, spray or within closed-loop industrial systems.

Manufacturer of eight non-CFC formulations including a supersaturated wipe solvent.

Standard and custom flammable solvent vapor degreasers for use with alcohol, cyclohexane, VMS solvents, azeotropes, and co-solvent applications, with automation. IPA dryers for post-aqueous drying. Also other custom aqueous and semi-aqueous cleaning equipment.

A broad line of non-hazardous, zero ODP, biodegradable, and low VOC cleaning products. Kyzen products are used for cold cleaning, immersion solvent cleaning, and aqueous spray cleaning. These materials are compatible with a wide range of cleaning machines: spray in air, spray in immersion, soak, and ultrasonic. Kyzen products can be used in closed looped systems for low/zero discharge by a variety of commonly available water reuse systems.

Manufacturer of industrial cleaning systems, specializing in aqueous-based chemistries. Both ultrasonic and non-ultrasonic washers available.

Liquid Carbonic Supercritical 966 Postal Rd. Allentown, PA 18103 Tel: (215) 266-9693

Fax: (215) 266-1482

Micro Care Corp. 34 Ronzo Road Bristol, CT 06010 Tel: (203) 585-7912

Fax: (203) 585-7378

Ney Ultrasonics 1280 Blue Hills Avenue Bloomfield, CT 06002 Tel: (203) 286-6149 Fax: (203) 286-6150

Occidental Chemical Corp. Technical Center PO Box 344 Niagara Falls, NY 14302 Tel: (800) 733-1165 Fax: (716) 278-7297

Performance Manufacturing Co. Malsbary Division 9615 Inter Ocean Drive Cincinnati, OH 45246 Tel: (513) 870-0200

Fax: (513) 870-0280

Petroferm Inc. 5415 First Coast Highway Fernandina Beach, FL 32034

Tel: (904) 261-8286 Fax: (904) 261-6994 Supercritical carbon dioxide cleaning technology and equipment. Closed loop or open loop recirculation systems effectively remove organic material from the component to be cleaned.

Solvent cleaners based on but not limited to terpene hydrocarbon, alcohol, or HCFC technologies. Formulations are engineered for use in non-automated hand cleaning applications where rinsing is not available. Cleaners are effective in touch-up cleaning and precision cleaning of all types of flux residues, oils, grease and grime.

Equipment for batch/manual and batch/automated cleaning using aqueous, water-miscible, semi-aqueous, and solvent chemistries. Complete application development laboratory to assist users.

Specially stabilized methylene chloride for a wide variety of applications. Formulations of halogenated toluenes and benzotrifluorides for cold cleaning of metals and electronics. Ethylene based glycol ethers for use in many cleaning formulations.

Steam Jet parts cleaning systems used in the removal of machining oils, dye penetrants, wax, and other contaminants from complex machined or cast parts.

Broad line of formulations based on terpenes, ester, and aliphatic hydrocarbons and blends of these organic solvents with surfactants. Products are used for cold (hand) cleaning and in combination with various cleaning equipment. Products can be removed by evaporation, water, alcohols or nonflammable fluorinated solvents. Both products and rinse media can be recycled.

P-T Technologies 108 4th Avenue South Safety Harbor, FL 34695 Tel: (800) 441-7874

(813) 726-4644 Fax: (813) 725-9544

Ramco Equipment Corporation 32 Montgomery Street Hillside, NJ 07205

Tel: (908) 687-6700 Fax: (908) 687-0653

Ransohoff Co. North 5th St at Ford Boulevard Hamilton, OH 45011 Tel: (513) 863-5813 (800) 248-WASH Fax: (513) 863-8908

Rapid Engineering, Inc. P.O. Box 700 1100 Seven Mile Road N.W. Comstock Park, MI 49321-0700 Tel: (616) 784-0500

Tel: (616) 784-0500 Fax: (616) 784-0435

REM Sales 34 Bradley Park Road East Grandie, CT 06026 Tel: (203) 653-0071

Fax: (203) 653-0393

R.G. Hanson Co., Inc. 703 E. Lincoln Bloomington, IL 61701 Tel: (309) 828-5070

(800) 392-0903 Fax: (309) 829-3294 Non-halogenated hydrocarbon-based specialty cleaning and degreasing formulations for precision cleaning. Also offer vapor degreaser alternatives, ionic contaminant removers, acetone, MEK alternatives for specific industrial applications.

Standard line of single and multi-station aqueous degreasing systems with a wide selection of options including platform oscillation, directional turbulation, oil removal, ultrasonics, filtration, parts rotators and dryers. Nationwide network of application engineers to assist from process development through installation.

Standard and custom aqueous and semiaqueous cleaning equipment for small through high production parts cleaning requirements, as well as very small to large part configurations and various part materials. Expertise in precision cleaning. Patented, mechanically agitated aqueous technology for high volume intricately shaped or machined parts as a direct replacement of solvent vapor degreasing and ultrasonic cleaning systems.

Parts washers utilizing low to medium pressure spraying of aqueous solutions on metal and plastic substrates. Exhaust incinerators for lowering VOC discharge to the atmosphere.

Very low emission, closed-loop vapor degreasing equipment for chlorinated solvents.

Aqueous cleaning chemicals and equipment. New equipment using only steam to clean also available. S.A.S., Inc.

2435 North Indian Hill Blvd Claremont, CA 91711-1730

Tel: (909) 624-0396 Fax: (909) 624-6336

Serec Corp. P.O. Box 28129

Providence, RI 02908 Tel: (401) 421-6080

Fax: (401) 521-5690

S&K Products International 80 Red Schoolhouse Rd. #102 Chestnut Ridge, NY 10977

Tel: (914) 425-6200 Fax: (914) 425-7602

Smart Sonic Precision Cleaning Systems 2372 Teller Rd., #107

Newbury Park, CA 91320

Tel: (805) 499-7440 Fax: (805) 375-5781

Solidstrip Inc.

601 Interchange Blvd.

Newark, DE 19711

Tel: (302) 292-8340 (800) 677-4568

Fax: (302) 292-8321

Sonitech Inc.

239 East Stephenson St.

Freeport, IL 61032 Tel: (815) 235-2400

Fax: (815) 232-2150

Aqueous cleaning machines, part washers using spray, immersion, agitation, and ultrasonics. Range of detergents, cleaners, oil skimmers, exhaust systems, filtering systems, auto rinse systems, and hot air dryers.

Manufacturers and designers of cleaning equipment using organic and chlorinated solvents. Equipment design uses vacuum technology to reduce emissions to near zero without refrigeration.

Isopropyl alcohol cleaning, degreasing, vapor drying systems.

Automated ultrasonic and spray batch cleaners for precision cleaning of metal, plastic, and ceramic parts. Systems clean oils, particulate and other contaminates. Optional waste evaporator.

Acrylic plastic blasting media for paint stripping.

Ultrasonic cleaning equipment using aqueous or semi-aqueous chemistries for a wide range of applications. Complete systems include cleaning tanks, rinse, tanks, dryers and closed loop rinse water recirculation systems. System uses alcohol or other solvents with perfluorinated chemistry for rinsing and drying non-water contact applications.

Step Kare Corporation P.O. Box 211 Highland Park, IL 60035 Tel: (708) 358-2158

Fax: (708) 358-2158

Fax: (805) 566-3813

Sub-Micron Cleaning Systems P.O. Box 219 Carpinteria, CA 93013 Tel: (805) 566-3830

Surftran Division of Robert Bosch Corporation 30250 Stephenson Hwy Madison Heights, MI 48071

Tel: (810) 691-2560 Fax: (810) 847-0206

Tally Cleaning Systems
Division of Letfab Engineering
332 John Diestch Blvd.
Attleboro Falls, MA 02763

Tel: (508) 695-1007 Fax: (508) 695-6335

Thierica 900 Clancy Ave. Grand Rapids, MI 49503 Tel: (616) 458-1538

Fax: (616) 458-7120

Water-based flux remover, effective on rosin and non-rosin fluxes; aqueous coating remover. Also removes cutting oils and other contaminants. Non-aqueous coating remover contains no petroleum distillates or glycol ethers. Capable of removing conformal coatings or rosin fluxes in a non-aqueous formulation.

Solid/gas CO₂ spray cleaning equipment for removing particulate contamination from critical surfaces, and the removal of submicron size particles. Applications include cleaning commercial and military optical components and systems, hard disk drives, semiconductor manufacturing equipment, electro-plating and polishing, and cleaning medical equipment.

Precision and non-precision aqueous cleaning equipment. Environmentally sound chemical cleaners and rust inhibitors for aqueous cleaning.

Single and multiple stage flat belt spraywashers, monorail spraywashers and rotary drum spraywashers which utilize aqueous-based cleaning formulations. Complete custom systems available which include spraywash, sprayrinse, rustinhibit, hot air dry, particle filtration, oil separation, etc.

New low cost spray equipment manages extremely difficult cleaning jobs. Used with large and small parts containing baked grease and paint soils. Designed to be safe and environmentally secure with hydrocarbon and aqueous cleaning agents. Stainless steel construction.

Tiyoda Mfg. U.S.A., Inc. 1613 Lockness Place Torrance, CA 90501 Tel: (310) 539-5471

Fax: (310) 539-5881

Ultrasonic Power Systems Ltd.
Unit C1
Hortonwood 10
Telford, Shropshire
ENGLAND TF1 4ES

Tel: 0952 676646 Fax: 0952 676599

Ultronix Inc. 104 Niantic Rd. Barto, PA 19504 Tel: (800) 553-7881 Fax: (215) 845-3995

Unitech Industrial Inc. PO Box 330 16 South Ave, Wappingers Falls, NY 12590 Tel: (914) 297-0745

(800) 277-5522 Fax: (914) 297-2919

Vector Environmental, Inc. 3374 West Hopkins Street Milwaukee, WI 53216 Tel: (414) 444-4010

Fax: (414) 449-2628

Closed-loop and self-contained ultrasonic batch cleaning system. Ultrasonic immersion (spray is optional) and vapor cleaning combined with vacuum drying provide complete cleaning and drying of virtually any component or part. Near zero emissions.

Alcohol cleaning using perfluorocarbons as a vapor blanket to inhibit flammability.

Retrofit existing equipment for HCFCs, chlorinated solvents, perfluorinated chemicals, and hydrocarbon-based solvents. New equipment (manual or automated) for efficient use of non-aqueous vapor phase chemicals.

Closed loop industrial cleaning systems. Spray washers, batch cleaning systems, vapor degreasing, and pretreatment systems available in new equipment and retrofits. Waste water treatment and recycling, 100% oil removal from the cleaning process.

Manufacturers of solvent emission control technologies including closed-loop systems for flushing, spraying, degreasing, ultrasonics, drying, coating, and bonding. All equipment compatible with flammable solvents, blends, and azeotropes.

Zip-Chem Products 1860 Dobbin Dr. San Jose, CA 95133 Tel: (408) 729-0291 (800) 648-2661

Fax: (408) 272-8062

Aqueous, semi-aqueous aliphatic hydrocarbon, terpene and alcohol-based cleaners. Application oriented packaging like wipes, aerosols, specialty containers, and other delivery systems available.

POLLUTION CONTROL EQUIPMENT

American Metal Wash, Inc. PO Box 265 360 Euclid Ave. Canonsburg, PA 15317

Tel: (412) 746-4203 Fax: (412) 746-5738

Baron-Blakeslee, Inc. 1500 West 16th St. Long Beach, CA 90813 Tel: (800) 548-4422

Tel: (800) 548-4422 Fax: (310) 491-1091 Line of evaporators, coalescers, and solution filtration systems designed to assist in cleaning up the cleaning solutions. Units can be provided as batch components to be added to current systems or totally automated to be incorporated with an existing system or with new cleaning equipment.

Full line of cleaning equipment for use with aqueous, semi-aqueous, HCFC, and chlorinated solvents. Closed loop system incorporating vacuum drying available (near zero emissions).

Better Engineering Mfg., Inc. 8361 Town Center Court Baltimore, MD 21236-4964

Tel: (410) 931-0000 (800) 229-3380 Fax: (410) 931-0053

Break-Free, Inc. 1035 S. Linwood Avenue Santa Ana, CA 92705-4396 Tel: (714) 953-1900

Fax: (714) 953-1900

CF TECHnologies, Inc. 1 Westinghouse Plaza, Suite 200 Hyde Park, MA 02136-2059 Tel: (617) 364-2500

Fax: (617) 364-2550

Cincinnati Industrial Machinery PO Box 62027 3280 Hageman St. Cincinnati, OH 45241 (street add.) 45262 (PO Box)

Tel: (513) 769-0700 Fax: (513) 769-0697

Cobehn, Inc. 640 Airport Road Winchester, VA 22602 Tel: (703) 665-0707 Fax: (703) 665-0768

Container Products Corp. PO Box 3767 Wilmington, NC 28406 Tel: (919) 392-6100

Fax: (919) 392-6778

Manufacturers of industrial cleaning equipment, including automatic jet washers compatible with biodegradable detergents and water solutions. Also cleaning systems with wash, rinse, and dry cycles, custom systems, extended wash cabinets, large capacity systems, and tumbling systems.

Unique blend of orange oils and highly refined synthetic hydrocarbons formulated as a safe replacement for most chlorinated or halogenated, ozone-depleting solvents. Applications include degreasing, removal of oils, wax, tar, adhesives, fresh paint and oilbased inks. Also water-based, alkaline cleaners for the removal of heavy soil contaminants.

Supercritical fluid extraction cleaning process for removing organic solvent, oil and lubricant residues. May also be effective for particulate removal when used in conjunction with agitation and/or ultrasonics.

Custom designed machines for cleaning, surface preparation and other processing of metal and non-metallic parts.

Manufacturer of a non-solvent-based precision batch cleaning system, utilizing solvent materials filtered to .2um ppm. Process removes flux, oils and particulates by agitation, wetting and drying in an inert atmosphere. Also used for hybrids, and PCBs.

Systems incorporating a variety of aqueous cleaning techniques which include filtered negative pressure chambers, high pressure chambers, and mobile cleaning systems.

Creative Enterprizes 105 Anyway, Suite 209 Lake Jackson, TX 77566 Tel: (409) 292-0244

Fax: (409) 292-0440

Ecolink 1481 Rock Mountain Blvd. Stone Mountain, GA 30083

Tel: (404) 621-8240 (800) 886-8240 Fax: (404) 621-8245

Ecology Systems, Inc. PO Box 391 Bellingham, MA 02019 Tel: (508) 966-0396

Environmental Recovery Resources, Inc.

PO Box 36

South Salem, NY 10590 Tel: (914) 533-6175

Fax: (914) 533-6275

ETUS, Inc. 1511 Kastner Place Sanford, FL 32771 Tel: (407) 321-7910 Fax: (407) 321-3098

FMT Inc. (Findlay Machine & Tool)

1950 Industrial Dr. Findlay, OH 4584O

Tel: (419) 422-0768 (800) 878-8011 Fax: (419) 422-0072

Fax: (419) 422-0072

Hotsy Equipment Co. 67 Sprague St. Boston, MA 02136 Tel: (800) 544-7790

Specialize in low cost conversion of existing facilities to safely use alternative cleaning agents. Design new or custom cleaning equipment and processes. Also design environmentally secure drying equipment and processes.

Wide range of aqueous, semi-aqueous and non-aqueous chemistries. Formulations include a variety of hydrocarbon, NMP, DBE and terpene products as well as non-ozone depleting halogenated solvents. Manufacture a complete line of batch cleaning units for use with these solvents.

Floating, dispersed, and dissolved hydrocarbon contaminants removed to surface water discharge limits, using: no coalescing plates, no centrifugal, no carbon absorption, no sorbent waste. Also offer systems and services to extend cleaning bath 'life' for more cost effective aqueous systems and waste water processing, and waste-minimized settling-pond and separator maintenance/remediation.

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous-based formulations containing detergents with and without glycol ethers.

Custom engineered parts cleaning equipment, standard parts cleaning equipment, and pollution control equipment.

Hoyt Corp. Forgs Rd.

Westport, MA 02790-0217

Tel: (508) 636-8811 Fax: (508) 636-2088

Hurricane Systems, Inc. 2080 Brooklyn Rd. PO Box 867 Jackson, MI 49204 Tel: (517) 787-3481

Fax: (517) 787-2349

Infinitex PO Box 383 10100 Main St. Clarence, NY 14031 Tel: (716) 759-6983 Fax: (716) 759-2050

JM Associates, Inc. 225 Railroad Avenue Bedford Hills, NY 10507 Tel: (914) 241-3795

Fax: (914) 241-3731

Lewis Corp. 102 Willenbrock Rd. Oxford, CT 06478-1033 Tel: (203) 264-3100

Membrex, Inc. 155 Route 46 West Fairfield, NJ 07004 Tel: (201) 575-8388

Fax: (201) 575-7011

Fax: (203) 264-3102

Wide range of "off-the-shelf", semi-custom, and custom parts cleaning systems using water-based cleaning compounds. Systems include: belt, rotary and overhead conveyors for continuous and batch processing; carousel, cabinet, and agitation tank washers; multistage wash, rinse, oxidation inhibit, and dry; oil removal and oil skimming devices; electric, gas, and steam heat packages.

Ultrafiltration systems for oil and water separation.

New bioremediation technology: safe, non-toxic, non-caustic, neutral pH, non-flammable aqueous cleaning solution with hydrocarbons. Has successfully replaced hazardous solvents in vehicle maintenance, metals cleaning and precision manufacturing operations. Also solvents for auto, marine, contaminated soil and grease cleaning. Application of cleaners by immersion, spray or within closed-loop industrial systems.

Manufacturer of industrial cleaning systems, specializing in aqueous-based chemistries. Both ultrasonic and non-ultrasonic washers available.

Membrane based separation processes to recycle, wash, and rinse waters from aqueous-based and organic cleaning solutions.

Met-Pro Corp. Systems Division 160 Cassell Rd. Harleysville, PA 19438 Tel: (215) 723-6751

Fax: (215) 723-6161

Midbrook Industries 1745 West Hamlin Rd. Rochester Hills, MI 48309 Tel: (313) 852-2490

(800) 966-9274 Fax: (313) 852-5520

NAPCO, Inc. Division of Thermo Electron Plymouth Industrial Park Terryville, CT 06786 Tel: (203) 589-7800

Fax: (203) 589-7304

North American BioIndustries Corp. 400 N. Executive Drive, Ste 467 Brookfield, WI 53005

Tel: (414) 789-2724 (800) 395-8070 Fax: (414) 789-2725

Proceco 7300 Tellier St. Montreal, Quebec Canada H1N 3T7 Tel: (514) 254-8494

Fax: (514) 254-8494 (514) 254-8184 (514) 254-6922 Activated carbon fiber adsorption systems for control and recovery of cleaning solvent air emissions. Recovers solvent in higher quality and with less energy use than granular carbon. Systems can be regenerated with steam, air or nitrogen.

Chemical flocculation waste water treatment systems for heavy metal emulsified oil, suspended solid removal to render industrial waste water suitable for sewering.

Ultrafiltration waste water treatment systems for pretreatment of oily waste water for either reuse or disposal. Metal working fluid filtration systems to extend working life of fluids. Oil separation systems including skimmers and coalescers to separate tramp oils from metal working fluids.

Aqueous cleaning systems using a series of tanks to clean, rinse, and dry parts in either manual or fully automated systems. Parts are cleaned using soak, spray under immersion, mechanical agitation or ultrasonic activation. Aqueous cleaning systems are available separately or in conjunction with a wide range of waste treatment systems including closed loop systems for zero discharge.

Aqueous surfactants and microbes for hard surface degreasing and to initiate bioremediation of oily waste water. Also offer and service bioreactors for treatment of oily waste water.

Aqueous spray washers (turntable, belt conveyor, and immersion types). Also supply contaminated cleaning solutions recycling systems.

Prosys Corp. 187 Billarica Rd.

Chelmsford, MA 01824

Tel: (508) 250-4940 Fax: (508) 250-4977

Quantum Technologies

PO Box 223

Jones Mill Industrial Park

Jones Mill, AR 72105

Tel: (501) 844-4700 Fax: (501) 844-4711

Rapid Engineering, Inc.

P.O. Box 700

1100 Seven Mile Road N.W.

Comstock Park, MI 49321-0700

Tel: (616) 784-0500

Fax: (616) 784-0435

R.G. Hanson Co., Inc.

703 E. Lincoln

Bloomington, IL 61701

Tel: (309) 828-5070

(800) 392-0903

Fax: (309) 829-3294

SAMSCO, Inc.

18 Cote Ave.

Goffstown, NH 03045

Tel: (603) 668-7111

Fax: (603) 647-0537

Separation Technologists, Inc.

100 Griffin Brook Park

Methuen, MA 01844

Tel: (508) 794-1170

Fax: (508) 794-0933

S&K Products International

80 Red Schoolhouse Rd. #102

Chestnut Ridge, NY 10977

Tel: (914) 425-6200

Fax: (914) 425-7602

Parts washers utilizing low to medium pressure spraying of aqueous solutions on metal and plastic substrates. Exhaust incinerators for lowering VOC discharge to the atmosphere.

Aqueous cleaning chemicals and equipment. New equipment using only steam to clean also available. Smart Sonic Precision Cleaning Systems 2373 Teller Rd., #107 Newbury Park, CA 91320

Tel: (805) 499-7440 Fax: (805) 375-5781

Solvent Kleene, Inc. 131.5 Lynnfield Street Peabody, MA 01960 Tel: (508) 531-2279

Fax: (508) 532-9304

Sonitech Inc. 239 East Stephenson St. Freeport, IL 61032 Tel: (815) 235-2400

Fax: (815) 232-2150

Ultronix Inc. 104 Niantic Rd. Barto, PA 19504 Tel: (800) 553-7881 Fax: (215) 845-3995

Unitech Industrial Inc. PO Box 330 16 South Ave, Wappingers Falls, NY 12590

Tel: (914) 297-0745 (800) 277-5522 Fax: (914) 297-2919

Vector Environmental, Inc. 3374 West Hopkins Street Milwaukee, WI 53216 Tel: (414) 444-4010

Fax: (414) 449-2628

Westek 400 Rolyn Place Arcadia, CA 91007 Tel: (818) 446-4444 Fax: (818) 446-7341 Automated ultrasonic and spray batch cleaners for precision cleaning of metal, plastic, and ceramic parts. Systems clean oils, particulate and other contaminates. Optional waste evaporator.

Formulations, replacing chlorinated solvents, compatible with existing equipment, suitable with ferrous and non-ferrous metals, for oil removal, degreasing, removing flux, wax. Company offers on-site solvent-recovery closed-loop systems.

Ultrasonic cleaning equipment using aqueous or semi-aqueous chemistries for a wide range of applications. Complete systems include cleaning tanks, rinse, tanks, dryers and closed loop rinse water recirculation systems. System uses alcohol or other solvents with perfluorinated chemistry for rinsing and drying non-water contact applications.

Retrofit existing equipment for HCFCs chlorinated solvents, perfluorinated chemicals, and hydrocarbon-based solvents. New equipment (manual or automated) for efficient use of non-aqueous vapor phase chemicals.

Closed loop industrial cleaning systems.

Spray washers, batch cleaning systems, vapor degreasing, and pretreatment systems available in new equipment and retrofits.

Waste water treatment and recycling, 100% oil removal from the cleaning process.

Manufacturers of solvent emission control technologies including closed-loop systems for flushing, spraying, degreasing, ultrasonics, drying, coating, and bonding. All equipment compatible with flammable solvents, blends, and azeotropes.

Working Solutions, Inc. 938 Cortlandt Street Houston, TX 77008

Tel: (800) 829-4419 Fax: (713) 862-5591

Zenon Environmental Inc. 845 Harrington Court Burlington, Ontario Canada L7N 3P3 Tel: (416) 639-6320

Fax: (416) 639-6320

Zenon-Kyzen, Inc. 13 Hampshire Drive Hudson, NH 03051 Tel: (603) 886-8200 Fax: (603) 886-8272 Aqueous, semi-aqueous and solvent cleaning technologies and equipment.

Membrane, filtration, distillation and biodegradation technologies for industrial water generation and reuse system requirements. These systems are designed for use with small batch equipment up to the largest in-line processes.

RETROFIT ALTERNATIVES

Allied-Signal PO Box 1139R Morristown, NJ 07960 Tel: (201) 455-4848 Fax: (201) 455-2745

Altos Engineering, Inc. 6009 N. 61 Ave Glendale, AZ 85301 Tel: (602) 931-8434 Fax: (602) 937-6396

Baron-Blakeslee, Inc. 1500 West 16th St. Long Beach, CA 90813 Tel: (800) 548-4422 Fax: (310) 491-1091 Batch and inline cleaning equipment with nonchemical, thermal vacuum drying of rinse waters. Detergent formulations available with and without glycol ethers.

Full line of cleaning equipment for use with aqueous, semi-aqueous, HCFC, and chlorinated solvents. Closed loop system incorporating vacuum drying available (near zero emissions).

Blue Wave Ultrasonics

Div. of Alpheus Cleaning Technologies Corp.

960 S. Rolff St.

Davenport, IA 52802

Tel: (319) 322-0144

(800) 373-0144

Fax: (319)322-7180

Branson Ultrasonics Inc.

41 Eagle Rd.

Danbury, CT 06810

Tel: (203) 796-0400

Fax: (203) 796-0381

Coleman Chemical, Inc.

One Gemstar Lane

Joliet, IL 60435

Tel: (815) 727-3900

Fax: (815) 727-3998

Creative Enterprizes

105 Anyway, Suite 209

Lake Jackson, TX 77566

Tel: (409) 292-0244

Fax: (409) 292-0440

Environmental Recovery Resources, Inc.

PO Box 36

South Salem, NY 10590

Tel: (914) 533-6175

Fax: (914) 533-6275

Environmental Solvents Corp. 1840 Southside Blvd.

Jacksonville, FL 32216

Tel: (904) 724-1990

Fax: (904) 724-2508

Ultrasonic cleaning equipment built for various applications specific to the customer's needs. Effective in cleaning different products and materials throughout the scope of fabricated metals, plastics, and ceramics. Also offer aqueous-based detergents that are environmentally safe.

Ultrasonic cleaning equipment and integrated cleaning systems for metal, electronic, and precision cleaning requirements. Manual and fully automated material handling/transport systems. Equipment for aqueous, semiaqueous and solvent chemistry.

Specialty formulations of non-ozone depleting

HFCs available in 1995.

Specialize in low cost conversion of existing facilities to safely use alternative cleaning agents. Design new or custom cleaning equipment and processes. Also design environmentally secure drying equipment and processes.

Floating, dispersed, and dissolved hydrocarbon contaminants removed to surface water discharge limits, using: no coalescing plates, no centrifugal, no carbon absorption, no sorbent waste. Also offer systems and services to extend cleaning bath 'life' for more cost effective aqueous systems and waste water processing, and waste-minimized settling-pond and separator maintenance/remediation.

Inexpensive retrofit kit for existing small two sump degreasers. Designed for use with terpene-based solvents in water-free cleaning.

Small production capacity.

Envirosolutions Inc. 335 Post Road West Westport, CT 06880 Tel: (203) 454-5902

Fax: (203) 222-0190

ETUS, Inc. 1511 Kastner Place Sanford, FL 32771

Tel: (407) 321-7910 Fax: (407) 321-3098

Finishing Equipment Inc. 3640 Kennebec Dr. St. Paul, MN 55122 Tel: (612) 452-1860

Fax: (612) 452-9851

FMT Inc. (Findlay Machine & Tool) 1950 Industrial Dr. Findlay, OH 4584O

Tel: (419) 422-0768 (800) 878-8011 Fax: (419) 422-0072

Occidental Chemical Corp. Technical Center

PO Box 344

Niagara Falls, NY 14302

Tel: (800) 733-1165 Fax: (716) 278-7297

Petroferm Inc.

5415 First Coast Highway Fernandina Beach, FL 32034

Tel: (904) 261-8286 Fax: (904) 261-6994 Biodegradable, non-caustic, neutral pH cleaner which is used in a closed loop parts washing system. Several different formulations developed to suit a variety of cleaning needs. Customized parts washing equipment is matched to the cleaning chemicals to ensure optimum performance.

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous-based formulations containing detergents with and without glycol ethers.

Aqueous, semi-aqueous and solvent cleaning systems available. From manual systems to automated high-production cleaning lines, with ultrasonics available as needed. Specialize in automated enclosed vapor degreasers for efficient use of the non-ozone depleting chlorinated solvents.

Custom engineered parts cleaning equipment, standard parts cleaning equipment, and pollution control equipment.

Specially stabilized methylene chloride for a wide variety of applications. Formulations of halogenated toluenes and benzotrifluorides for cold cleaning of metals and electronics. Ethylene based glycol ethers for use in many cleaning formulations.

Broad line of formulations based on terpenes, ester, and aliphatic hydrocarbons and blends of these organic solvents with surfactants. Products are used for cold (hand) cleaning and in combination with various cleaning equipment. Products can be removed by evaporation, water, alcohols or nonflammable fluorinated solvents. Both products and rinse media can be recycled.

Rapid Engineering, Inc. P.O. Box 700 1100 Seven Mile Road N.W. Comstock Park, MI 49321-0700

Tel: (616) 784-0500 Fax: (616) 784-0435

SAMSCO, Inc. 18 Cote Avenue Goffstown, NH 03045 Tel: (603) 668-7111

Fax: (603) 647-0537

S.A.S., Inc. 2435 North Indian Hill Blvd Claremont, CA 91711-1730

Tel: (909) 624-0396 Fax: (909) 624-6336

SONICOR Instrument Corp. 100 Wartburg Ave. Copiague, NY 11726 Tel: (516) 842-3344 Fax: (516) 842-3389

Ultronix Inc. 104 Niantic Rd. Barto, PA 19504 Tel: (800) 553-7881 Fax: (215) 845-3995

Unitech Industrial Inc. PO Box 330 16 South Ave, Wappingers Falls, NY 12590 Tel: (914) 297-0745 (800) 277-5522

Fax: (914) 297-2919

U.S. Polychemical Corp. Route 45 Chestnut Ridge Road Chestnut Ridge, NY 10977 Tel: (914) 356-5530

(800) 431-2072 Fax: (914) 356-6656 Parts washers utilizing low to medium pressure spraying of aqueous solutions on metal and plastic substrates. Exhaust incinerators for lowering VOC discharge to the atmosphere.

The SAMSCO water evaporator evaporates efficiently and economically. Typical applications include machining/grinding coolants, alkaline cleaners, floor scrubber waters, vibratory solutions, stamping/drawing compounds, wire drawing compounds and die casting solutions.

Aqueous cleaning machines, part washers using spray, immersion, agitation, and ultrasonics. Range of detergents, cleaners, oil skimmers, exhaust systems, filtering systems, auto rinse systems, and hot air dryers.

Ultrasonic cleaning equipment, automated aqueous cleaning systems. Environmentally safe alternatives to cleaning with hazardous solvents.

Retrofit existing equipment for HCFCs chlorinated solvents, perfluorinated chemicals, and hydrocarbon-based solvents. New equipment (manual or automated) for efficient use of non-aqueous vapor phase chemicals.

Closed loop industrial cleaning systems. Spray washers, batch cleaning systems, vapor degreasing, and pretreatment systems available in new equipment and retrofits. Waste water treatment and recycling, 100% oil removal from the cleaning process.

Manufacturers of oil and grease buffing compounds, flux removing chemistries with non-chlorinated solvents, semi-aqueous, and aqueous technologies. Also automated cleaning systems with recirculating agitation or ultrasonics for turn-key applications.

Working Solutions, Inc. 938 Cortlandt Street Houston, TX 77008 Tel: (800) 829-4419

Fax: (713) 862-5591

NO CLEAN ALTERNATIVES

Blackstone Ultrasonics, Inc. 9 North Main St.
Jamestown, NY 14701
Tel: (716) 665-2340
(800) 766-6606

Fax: (716) 665-2480

Circle-Prosco, Inc. 2017 Yost Ave. Bloomington, IN 47403 Tel: (812) 339-3653

Fax: (812) 331-2566

Kester Solder Division Litton Industries

Des Plaines, IL 60018-2675 Tel: (708) 297-1600

Fax: (708) 390-9338

515 E. Touhy Avenue

Aqueous, semi-aqueous and solvent cleaning technologies and equipment.

Complete range of ultrasonic cleaning products from stand-alone and bench-top heated tanks to wash/multiple rinse/dry console systems with optional material handling and automation. Also, fluxless ultrasonic solder pots for tinning leads and electronics.

Aqueous, alkaline, etchant cleaners for ferrous and non-ferrous applications. Aqueous, acidic, neutral, and alkaline oil rejecting cleaners with or without glycol ethers for ferrous and non-ferrous applications. Water miscible, semi-aqueous cleaners (electronics cleaning). Water emulsifiable cleaners containing aliphatic and terpene solvents. Evaporative oils for no clean applications.

Alcohol-based cleaners, solvent blends, and aqueous saponifiers. Also manufacture noclean, water-clean, and VOC-free; fluxes, solders, and solder pastes.

MAINTENANCE CLEANING

ADF Systems, Ltd. 1302 19th Street. N. Humboldt, IA 50548 Tel: (515) 332-5400

Fax: (800) 798-5100

A.W. Chesterton 225 Fallon Road Middlesex Industrial Park Stoneham, MA 02180-2999

Tel: (617) 438-7000 Fax: (617) 438-8971

Better Engineering Mfg., Inc. 8361 Town Center Court Baltimore, MD 21236-4964 Tel: (410) 931-0000

(800) 229-3380 Fax: (410) 931-0053

BioChem Systems 14452 W. 44th Avenue Golden, Colorado 80403 Tel: (303) 277-9700

(800) 777-7870 Fax: (303) 277-9596 Offers detergents both liquid and powder designed for use in all type of aqueous washing equipment. Offers non-foaming formulations with and without glycol ethers and with and without rust inhibitors for all applications. Has parts washing equipment designed for the type of uses experienced in maintenance operations.

A complete line of aqueous cleaners containing detergents, with and without glycol ethers. Hydrocarbon solvents and solvent blends. Non-ozone depleting chlorinated solvents. Provide free assistance to customers wishing to replace ozone-depleting chemicals. Synthetic machining fluids, lubricants and maintenance specialties.

Manufacturers of industrial cleaning equipment, including automatic jet washers compatible with biodegradable detergents and water solutions. Also cleaning systems with wash, rinse, and dry cycles, custom systems, extended wash cabinets, large capacity systems, and tumbling systems.

Complete line of safe environmentally friendly products based on terpene chemistry for use in many cleaning and degreasing operations. Both water dilutable and non-dilutable products are offered which will remove most organic contaminants from a wide variety of substrates and leave a clean, virtually residue free surface with no adverse effects on the surface being cleaned.

Break-Free, Inc. 1035 S. Linwood Avenue Santa Ana, CA 92705-4396

Tel: (714) 953-1900 Fax: (714) 953-0402 Unique blend of orange oils and highly refined synthetic hydrocarbons formulated as a safe replacement for most chlorinated or halogenated, ozone-depleting solvents. Applications include degreasing, removal of oils, wax, tar, adhesives, fresh paint and oilbased inks. Also water-based, alkaline cleaners for the removal of heavy soil contaminants.

BY*PAS International Corporation P.O. Box 14

Hudsonville, MI 49426 Tel: (616) 875-7234

Fax: (616) 875-7743

Calgon Corp. Chemical Technologies Group PO Box 1346 Pittsburgh, PA 15230

Tel: (800) 955-0090 Fax: (412) 777-8927

Carroll Company 2900 W. Kingsley Road Garland, TX 75041 Tel: (800) 527-5722

Fax: (214) 840-0678

Chemtronics, Inc. 8125 Cobb Center Dr. Kennesaw, GA 30144 Tel: (404) 424-4888

Fax: (404) 424-4267

Cobehn, Inc. 640 Airport Road Winchester, VA 22602 Tel: (703) 665-0707 Fax: (703) 665-0768 Formulations include non-chelating, non-phosphate, readily biodegradable aqueous-based cleaners, non-chlorinated solvent cleaners and paint removing compounds, non-glycol based solvent enhanced general cleaners, neutral pH process cleaners, and industrial waste treatment polymers.

Aqueous cleaning formulations containing detergents with and without glycol ethers. Formulations made from hydrocarbons and terpenes with and without emulsifiers. Specialty solvent blends for printing ink cleanup, electric motor degreasing, cleaning printed circuit boards, and assorted textile mill applications.

Ultra-pure cleaners for electronics and metals.

Manufacturer of a non-solvent-based precision batch cleaning system, utilizing solvent materials filtered to .2um ppm. Process removes flux, oils and particulates by agitation, wetting and drying in an inert atmosphere. Also used for hybrids, and PCBs.

Coleman Chemical, Inc. One Gemstar Lane Joliet, IL 60435

Tel: (815) 727-3900 Fax: (815) 727-3998

Creative Enterprizes 105 Anyway, Suite 209 Lake Jackson, TX 77566

Tel: (409) 292-0244 Fax: (409) 292-0440

EXXON Chemical Co. PO Box 3272 Houston, TX 77253-3272 Tel: (800) 526-0749

Fax: (713) 870-6661

International Products Corp. P.O. Box 70 Burlington, NJ 08016-0070

Tel: (609) 386-8770 Fax: (609) 386-8438

JM Associates, Inc. 225 Railroad Avenue Bedford Hills, NY 10507 Tel: (914) 241-3795

Fax: (914) 241-3731

JnJ Industries 195 E. Main St., Suite 303 Milford, MA 01757

Tel: (800) 554-9994 Fax: (508) 478-2221 Specialty formulations of non-ozone depleting HFCs available in 1995.

Cleaners comprised of narrow boiling range, high flash point aliphatic hydrocarbons. Low olefin and aromatic content. Low residue, low corrosivity to metals, low odor, low toxicity. Requires no water handling. Recycle by distillation. Effective against a wide range if waxes, oils, and greases.

Biodegradable formulations with low toxicity, no phosphates or CFCs used in precision and critical cleaning operations.

New bioremediation technology: safe, non-toxic, non-caustic, neutral pH, non-flammable aqueous cleaning solution with hydrocarbons. Has successfully replaced hazardous solvents in vehicle maintenance, metals cleaning and precision manufacturing operations. Also solvents for auto, marine, contaminated soil and grease cleaning. Application of cleaners by immersion, spray or within closed-loop industrial systems.

Manufacturer of eight non-CFC formulations including a supersaturated wipe solvent.

Kleer-Flo Company 15151 Technology Dr. Eden Prairie, MN 55344

Tel: (612) 934-2555 (800) 328-7942 Fax: (612) 934-3909

Fax: (615) 831-0889

Kyzen Corporation 430 Harding Industrial Drive Nashville, TN 37211 Tel: (615) 831-0888

LPS Laboratories, Inc. 4647 Hugh Howell Rd. Tucker, GA 30084 Tel: (800) 241-8334 Fax: (404) 493-9206

MacDermid Incorporated

Waterbury, CT 06702 Tel: (203) 575-5700

245 Freight Street

Tel: (203) 575-5700 Fax: (203) 575-5630

Micro Care Corp. 34 Ronzo Rd. Bristol, CT 06010 Tel: (203) 585-7912 Fax: (203) 585-7378

Miller-Stephenson Chemical Co., Inc. George Washington Highway Danbury, CT 06810

Tel: (203) 743-4447 Fax: (203) 791-8702 A broad line of non-hazardous, zero ODP, biodegradable, and low VOC cleaning products. Kyzen products are used for cold cleaning, immersion solvent cleaning, and aqueous spray cleaning. These materials are compatible with a wide range of cleaning machines: spray in air, spray in immersion, soak, and ultrasonic. Kyzen products can be used in closed looped systems for low/zero discharge by a variety of commonly available water reuse systems.

Environmentally safe products, aqueous and hydrocarbon-based blends for degreasing.

Solvent cleaners based on but not limited to terpene hydrocarbon, alcohol, or HCFC technologies. Formulations are engineered for use in non-automated hand cleaning applications where rinsing is not available. Cleaners are effective in touch-up cleaning and precision cleaning of all types of flux residues, oils, grease and grime.

Navy Brand Mfg Co. Division of Chemstar, Inc. 5111 Southwest Avenue St. Louis, MO 63110-3496

Tel: (800) 325-3312 (314) 865-5500

Fax: (314) 865-5509

Ney Ultrasonics 1280 Blue Hills Avenue Bloomfield, CT 06002 Tel: (203) 286-6149

Fax: (203) 286-6150

North American BioIndustries Corp. 400 N. Executive Drive, Ste 467 Brookfield, WI 53005 Tel: (414) 789-2724

(800) 395-8070 Fax: (414) 789-2725

Oakite Products, Inc. 50 Valley Road Berkeley Heights, NJ 07922

Tel: (908) 508-2107 Fax: (908) 464-9250 Industrial degreasers for metal cleaning and parts cleaning. Formulations are based on non-ozone depleting solvents. Also solvent-based, aqueous-based and also semi-aqueous-based products for a variety of cleaning applications on a host of substrates, both metallic and non-metallic.

Equipment for batch/manual and batch/automated cleaning using aqueous, water-miscible, semi-aqueous, and solvent chemistries. Complete application development laboratory to assist users.

Aqueous surfactants and microbes for hard surface degreasing and to initiate bioremediation of oily waste water. Also offer and service bioreactors for treatment of oily waste water.

High-tech, state-of-the-art, recyclable cleaning products for use in immersion, ultrasonic, hand wipe, and other cleaning applications. Many aqueous and semi-aqueous formulations adhere to the Clean Air Act, OSHA regulations, and do not contain SARA 313 ingredients. Comprehensive lines of products that exhibit biodegradability, oil splitting or emulsifying features. Terpene-based cleaners have no flash point, and alkaline, aqueous formulations include non-phosphated, non-chelated, mildly alkaline cleaners.

Petroferm Inc. 5415 First Coast Highway Fernandina Beach, FL 32034

Tel: (904) 261-8286 Fax: (904) 261-6994

P-T Technologies 108 4th Avenue South Safety Harbor, FL 34695 Tel: (800) 441-7874

(813) 726-4644 Fax: (813) 725-9544

Ramco Equipment Corporation 32 Montgomery Street Hillside, NJ 07205 Tel: (908) 687-6700

Fax: (908) 687-0653

Rite Off, Inc. Seaford Industrial Park P.O. Box 1070 Seaford, DE 19973 Tel: (800) 645-5853 (302) 628-2100

Fax: (800) 571-2211

Rochester Midland Corp. 333 Hollenbeck St. Rochester, NY 14621 Tel: (716) 336-2200

Fax: (716) 467-4406

Broad line of formulations based on terpenes, ester, and aliphatic hydrocarbons and blends of these organic solvents with surfactants. Products are used for cold (hand) cleaning and in combination with various cleaning equipment. Products can be removed by evaporation, water, alcohols or nonflammable fluorinated solvents. Both products and rinse media can be recycled.

Non-halogenated hydrocarbon-based specialty cleaning and degreasing formulations for precision cleaning. Also offer vapor degreaser alternatives, ionic contaminant removers, acetone, MEK alternatives for specific industrial applications.

Standard line of single and multi-station aqueous degreasing systems with a wide selection of options including platform oscillation, directional turbulation, oil removal, ultrasonics, filtration, parts rotators and dryers. Nationwide network of application engineers to assist from process development through installation.

Wide variety of cleaning and maintenance formulations using alcohols, terpenes, HFCs, hydrocarbons and chlorinated solvents. Specialists in aerosol technology, liquid formulations also available.

Formulations comprised of hydrocarbon and/or terpene solvents. Some also contain surfactants. Many contain alkaline builders and chelants as well as glycol ethers. Some aqueous-based or water-compatible formulations exhibit good biodegradability. Many products allow for good oil/grease separation upon standing.

S.A.S., Inc.

2435 North Indian Hill Blvd Claremont, CA 91711-1730

Tel: (909) 624-0396 Fax: (909) 624-6336

Star Cleaning Miracle, Inc. P.O. Box 14

Hudsonville, MI 49426 Tel: (616) 875-7234

Fax: (616) 875-7743

SWR Corporation 127 East Washtenaw Lansing, MI 48933

Tel: (517) 487-6390 Fax: (517) 487-8205

Terpene Technologies Inc. 3400 Ridge Rd. W, Suite 293 Rochester, NY 14626 Tel: (716) 546-8455 (716) 777-0790

Fax: (716) 227-3834 Texo Corporation 2801 Highland Ave.

Cincinnati, OH 45212 Tel: (513) 731-3400

Fax: (513) 731-8113

Aqueous cleaning machines, part washers using spray, immersion, agitation, and ultrasonics. Range of detergents, cleaners, oil skimmers, exhaust systems, filtering systems, auto rinse systems, and hot air dryers.

Cleaners include biodegradable, non-toxic, aqueous cleaner/degreaser surfactants that have a powerful affinity for removing grease, oil and grime emulsions. The SWRTM cleaners also remove oils and grease coatings from machine and electronic parts with no remaining residue. As non-toxic compounds, SWRTM cleaners reduce associated end-use disposal costs.

Terpene alcohol and hydrocarbon blends used as non-water soluble solvents, semi-aqueous cleaners and degreasers based on terpene alcohols and hydrocarbons. Also offer aqueous-based terpene formulations containing detergents and emulsifiers.

Aqueous, semi-aqueous, and various solvent cleaners for replacement of vapor degreasing and handwiping with solvents. Applications of cleaners can be spray immersion, ultrasonic or handwiping. Cleaners can be multimetal safe and contain corrosion inhibitors if necessary.

Union Camp Corp.
Bush Boake Allen Division
PO Box 37617
Jacksonville, FL 32236
Tel: (904) 783-2180
(800) 874-9220

Fax: (904) 786-6495

U.S. Polychemical Corp. Route 45 Chestnut Ridge Road Chestnut Ridge, NY 10977 Tel: (914) 356-5530 (800) 431-2072

Working Solutions, Inc. 938 Cortlandt Street Houston, TX 77008 Tel: (800) 829-4419 Fax: (713) 862-5591

Fax: (914) 356-6656

W.R. Grace & Co. Metalworking Fluids Group 55 Hayden Ave. Lexington, MA 02173 Tel: (617) 861-6600 Fax: (617) 861-9066

Zip-Chem Products 1860 Dobbin Dr. San Jose, CA 95133 Tel: (408) 729-0291 (800) 648-2661

Fax: (408) 272-8062

Range of wood terpene-based alternative solvents for semi-aqueous and solvent only cleaning processes and maintenance cleaning applications. High solvency and high soil loading properties for removal of solder fluxes, heavy oils and greases, polishing compounds, carbonaceous deposits etc. to the highest cleanliness standards.

Manufacturers of oil and grease buffing compounds, flux removing chemistries with non-chlorinated solvents, semi-aqueous, and aqueous technologies. Also automated cleaning systems with recirculating agitation or ultrasonics for turn-key applications

Aqueous, semi-aqueous and solvent cleaning technologies and equipment.

Wide range of aqueous cleaning formulations for metal. precision, and maintenance cleaning. Includes formulations that are phosphate-free. Suitable for agitation, soak, spray, ultrasonic and hand wipe applications.

Aqueous, semi-aqueous aliphatic hydrocarbon, terpene and alcohol-based cleaners. Application oriented packaging like wipes, aerosols, specialty containers, and other delivery systems available.